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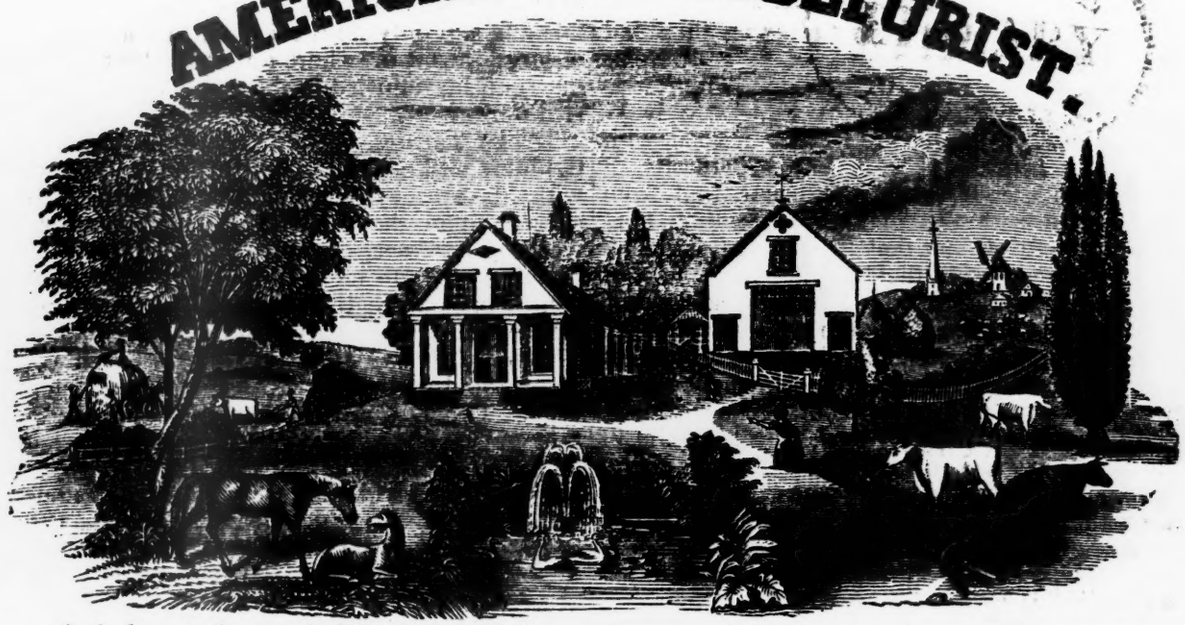

Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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THE

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THE TRAVELLER.—No. 2.

From Philadelphia to Wilmington, the road lies along the Delaware, over a very different land from that on the Jersey side. There it is level and sandy; here hilly, rocky, and clayey. There the farm houses are mostly of wood, with a light, cheerful look; here they are mostly of stone, with a dark, gloomy exterior, and from intercourse with the inhabitants, one is constrained to think that they partake in some degree of the nature of their habitations. Most of the land along this road is used for grazing purposes, and every road-side inn is a cattle market. Many of the cattle fed here, first saw the light upon the grand prairie of Illinois, whence they travelled to the rich pastures of Northern Ohio, and from there to the sweet grass-clad hills of the Delaware, and will at last gladden the hearts of some of the hungry souls who buy their daily allowance of beef in the city markets.

Average Crops near Wilmington—Farm of Wm. Webb.—Upon well-cultivated, richly-manured clay soil, corn, 70 bushels, wheat, 20, potatoes, 200 per acre. Rotation. Commence by turning under Timothy sod six inches deep in the fall, put on twenty two-horse-cart loads of manure in the spring, and plow in without turning up the sod, and plant corn first of May. Plow in ridges in fall after the corn is off, and again in spring with forty single loads of manure, and plant in drills, fourteen bushels large potatoes, cut. After the potatoes are dug, haul off the vines for manure, plow, harrow, and sow 8 to 12 quarts of Timothy to the acre. Mow three years without grazing or manuring, and then plow and plant corn again. Mr. Webb finds this course more profitable than sowing wheat, as upon land so highly manured, it makes too much straw, which falls down, and the profitable yield of grain is apt to fail.

Mr. W. has enriched a poor, worn-out farm by the use of night soil, which he procures from Wilmington in large four-ox wagons, at one dollar a load, he finding team and wagon; or as they are called, "barges." These are tilted and emptied into a cistern upon a side hill, where the contents are diluted and drawn off by a gate and sluice into carts, and spread upon fresh-flowed ground. His stock, crops, and profits, I have given in detail at page 146 of the current volume.

Bought the farm, 100 acres, about a dozen years since, at $50 an acre. It is now worth $100 to $120. Hires one man by the year and one for eight months, and occasionally by the day. Usual wages $10 a month, and 50 cents a day. Keeps two horses and works by exchange with his father, equivalent to three yoke of oxen. Keeps one good cow and one hog. Crops last year, 22 acres corn, 18 this year; wheat, 20 acres each year, but intends to quit sowing wheat; oats, 2½ acres last year and less this; mowing, 38 acres—hay sold in bulk. Intends to subsoil-plow the whole place. Limed once, 50 to 100 bushels unslacked, to the acre. Cost, 12 to 14 cents a bushel, and two to three miles' hauling. Prefers ashes to lime; they cost 12 cents a bushel, as gathered from houses, or 8 cents for leached. Of course, this system of farming can only be carried on in the vicinity of large towns, or where an equivalent of manure can be returned to the land for crops carried off.

Drilled Turnips.—No one can have an idea of the increased crop by drilling, until he has seen with his own eyes. This I saw well demonstrated upon the farm of Dr. Brown, a real working farmer, near Wilmington. Many bunches of six to eight grew so thick that the centre ones were lifted quite upon the top of others, the tap root only reaching the ground.

Value of Swamp Muck on Grass.—Dr. B. used it as top-dressing for grass, and doubled the crop. Thinks it the most valuable application that can be given grass land at the same expense. Dr. B. is a Yankee farmer, though only lately engaged in the business, and understands the profit of manuring. He gets three crops of market vegetables a-year, from a portion of the land.

Hog Manure.—He thinks the manure that can be made by a pen of hogs, worth more than the pork, and that is worth 5 or 6 cents a pound.

Price of Milk.—He keeps about a dozen cows and sells milk at 5 cents a quart, which is equal to butter at 75 cents a pound.

How to Make a Heifer a Good Cow.—C. P. Holcomb, says, let a two-year-old heifer have a calf, and let a steady good milker draw the milk three times a-day, and try to distend the udder and it will do so and increase her capacity to secrete milk.

Solon Robinson.

THE BEST ROTATION OF CROPS.—No. 2.

Judge Buel, who was an excellent practical farmer, says: "The best guards against drouth are, keeping the soil deep, rich, clean, and mellow on the surface." He also assures us, that "the fibrous-rooted vegetables gather their sustenance from the upper, and the tap-rooted from the lower stratum." I have said deep plowing is necessary to prepare the ground for the succeeding crop of rye and clover, in order that there may be a deep permeable soil for the long tap root of the latter, and thus enable it to draw its nourishment from the subsoil. The corn will also be greatly benefitted by deep plowing, because this is not only the best guard against drouth, but also enables the roots of corn to penetrate deeper in the soil, and thus derive a fuller supply of food than they could possibly do if only enabled to extend themselves along the surface of the ground.

The advantages of deep plowing may be best attained, in the foregoing rotation, by effectually turning under the clover ley, in the fall, or early in the winter. The sooner this operation is performed, after the second crop of clover is thoroughly ripe and dry, the better, because it would have more time to go through the process of putrescent fermentation, before the clover is thrown to the surface, by plowing the ground the next summer. The following plan is recommended:—So soon as the second growth of clover is thoroughly ripe and dry, let the clover ley be carefully turned under, with suitable

plows; and, to acomplish this more effectually, let a second plow of suitable construction, follow each of the large plows, in the same furrow, so as to deepen the loose soil, and completely cover the clover.

To facilitate this purpose, a brush drag should precede the first plows, so as to lay the clover in the same direction in which the ground is to be plowed. If this operation is well performed, the clover ley will be completely buried, and a deep, loose soil found, which may remain undisturbed until near the time for planting corn, in April following, when the ground should be well harrowed, and checkered off very shallow, with light one-horse plows, and planted. In order not to disturb the clover beneath, the corn should be cultivated entirely with light one-horse harrows or cultivators, till about the first of July. By this time, the clover will probably have gone through the putrescent fermentation, and should now be well stirred with shovel plows, each way, and so deep as to scatter and bring near to the surface, a sufficient portion of clover seed to furnish the succeeding crop of clover.

Early in September, the field should be sown in rye, and put in with the cultivator, or corn harrow, so as to leave a tolerable level surface, for the benefit of the succeeding crops of rye and clover, both of which are to be fed on the ground. If the corn, among which the rye is to be sown, in September, shall have been blown down, or tangled so much that the cultivator or corn harrow cannot be used, in putting in the rye, this operation must be delayed till the corn is cut up, and put in shocks. As it is important that the rye crop should be sown early, in order that it may furnish a good pasture the ensuing winter and spring, it is necessary that the corn crop should be planted early, so that it may be ready the sooner to cut off, in case it should be so tangled as to prevent the rye being sown among the standing corn. Besides, even if it can be sown, before the corn is cut off, it is important that this operation be performed soon after, as much benefit will thereby result to the rye crop, by affording it sun and air.

The corn crop should always be cut up, when thoroughly ripe, as well for the purpose of provender, as with a view to saving of manure. It should be fed to fattening cattle, in feeding pens, so situated as to be best adapted to the saving of manure, and conver[illegible] of hauling to the proper fields. That part of the fodder, from which the corn shall have been shucked, should be fed in the same manner, with a view to the same object. Judge Buel states that by pursuing the course recommended, "ten or twelve loads of manure may readily be obtained every spring, from each animal wintered in the yard."

Prospect Hill, Ky. A. BEATTY.

OSAGE-ORANGE SPROUTS FOR WALKING STICKS.—The raising of these would doubtless be a profitable business, to sell to the walking-cane makers, as no other wood can surpass it for that purpose. A ready sale could be had in this city for a very large quantity.

SALT BITTERNS AS A MANURE.

IN the Agriculturist for February, is an inquiry as to the value of salt bitterns, (as the foreign ingredients in the salt water of the Onondaga salines are called,) for manure. I have at this moment, no analysis of this substance before me, to enable me to state with certainty of what it is composed, nor in what proportions; but it is generally understood to consist of lime, (the sulphate and carbonate,) with a little iron, and I think some magnesia. Of these, the sulphate is in the largest quantity, but in the form in which it is thrown out of the works, it is also strongly impregnated with salt.

Of this material, hundreds of thousands of bushels are heaped up about the salt works in this city, and are used for filling the streets, lots, &c.

Perhaps any one familiar with the chemical character of the ingredients could determine whether they would be useful for manures, as well without a trial upon soil as with one. I have been 20 years a resident of Syracuse, and yet am unable to give the information sought for. There prevails here a vague idea, or a popular notion, that bitterns would serve a valuable purpose, applied to the soil. I have heard numbers of persons remark that they have seen them tried, and know they produce a marked effect. In one instance, I remember a gentleman, resident here, told me that he was knowing of their application upon a considerable piece of land, and that the effect was observable for several years. I have also been informed, that where the salt water escapes from the State Aqueducts and saturates the ground, the grass springs up after a few years, with much greater luxuriance than before. But I have never witnessed an example of this sort, and I know of no one in this vicinity, who is accustomed to any regular or systematic employment of these bitterns for fertilising purposes.

I am about to institute some experiments on this subject. Last summer, I paid $30 for hauling a quantity of this material about two miles, to my farm. It lies yet in a heap, in the field, but I shall this spring, begin to use it. I intend to apply some of it as a top-dressing upon a piece of meadow, and likewise, upon a low pasture, recently reclaimed, the surface of which is composed of two or three feet of peat, or muck. I am mostly engaged in growing fruit trees, and dare not apply bitterns very freely to them, for fear of the effect of the salt. But in a year or two, perhaps, by next fall, I shall be able to speak more confidently in regard to their merits.

Mr. Spencer, formerly superintendent of the Onondaga Salt Springs, stated to me, (I believe, on his return from Saltville, in the southwest county of Virginia, where he was employed three or four years since, in the supervision of the salt manufacture at that place,) a fact that has some bearing upon this inquiry, and which I will repeat. He said that in the immediate vicinity of the salt works, in that section, was formerly an open, barren field, of about forty acres in extent, lying in the form of a natural basin. When he went to Saltville, he noticed

that one half of this tract, there enclosed, bore a most luxuriant crop of grass, while the other part was comparatively unproductive. The contrast between the two parts of the field was so marked, that he had the curiosity to inquire into the cause. He received for answer that 20 years before, the bitterns, composed of the same substances as those of Syracuse, had accumulated in such large quantities about the salt works, as to impede the operations of the proprietors, and they had been forced to remove them. They were carted into this field, and spread as was found most convenient over the one half, not with any expectation of deriving any benefit from their application to the soil, but simply to get them out of the way. How long it was after this, before vegetation resumed possession of a soil thus formed, I do not recollect that Mr. S. stated, but for a number of years it had borne the heaviest crops of grass he had ever seen, and at all times exhibited a remarkable appearance of verdure amidst surrounding sterility.

The soil in the vicinity of Syracuse is composed of the debris of the great limestone ledge, or out-crop, which runs through the western part of this state. It is naturally productive, and is exceedingly sensitive to barnyard manures. There is not a great deal of skillful or scientific farming done within two or three miles of the salt works, the attention of our citizens being turned to other objects. This I think accounts for the want of some positive knowledge upon the subject of the efficacy, as a manure, of the lime and plaster found in the salt water here. Some of the farmers in the country have applied salt to their growing crops, such as wheat and barley, with decided advantage, and its use as a top-dressing upon English grain and grass is probably increasing.

Of one fact, I have not a particle of doubt. If our salt works were on Long Island, the bitterns would be used, and would be found valuable on its sandy soil. But I am not certain they would pay transportation from here. I once proposed to Senator Smith, of Long Island, to send him a boat load, for trial, but have never carried my purpose into effect. When I have seen the results of my experiments, I will apprise you. V. W. S.

Syracuse, N. Y., Feb., 1850.

RUTA-BAGA OR SWEDISH TURNIPS.

We are no advocates of the introduction of ruta bagas into general cultivation in this country for stock feeding, to the exclusion of our corn and clover crops. We have no doubt, that the cultivation of corn for fattening animals, and to a certain extent for growing and working ones, also, where the soil is suited to it, is much more profitable in North America.

Besides the perfect adaptation of our hot, dry summers to maturing large quantities of this highly-condensed and fattening food, which, on fertile lands, with judicious selection of seed and proper cultivation, need seldom fall below 50 bushels, and often rises to 80 bushels of shelled grain per acre, there is a large quantity of valuable forage furnished in the stalk, leaves, husk, and cob. This, if properly prepared, and fed, will yield a great deal of nutriment to cattle, sheep, and horses. Great loss has been sustained by the waste of these, from utter neglect or injudicious management; but if all are husbanded and fed, we much doubt if any crop within the United States, will yield so great a product in pork, beef, mutton, growth, or laboring capacity, acre for acre, as Indian corn.

Unlike most others of the family of grasses, in which this grain is properly classed, corn draws much of its nourishment from the atmosphere, through its massive, porous stalks, and its expanded succulent leaves; and it consequently leaves the soil less exhausted for the quantity of nutriment it contains, than any other grain, buckwheat alone, perhaps, excepted.

But, after allowing all these advantages to the general cultivation of corn, we are satisfied there is frequently great profit in growing a few acres of turnips where the soil is adapted to them, and the stock on the farm will admit of their economical feeding.

Roots of some kind, either potatoes, carrots, beets, parsnips, or artichokes, are almost indispensable for the health and thrift of stock, as an occasional food. In this country, potatoes have formerly occupied a conspicuous rank for this purpose; but since the fatal and almost universal epidemic, which has ravaged them for the last few years, they have become much less popular, and their cultivation has been limited, almost entirely to their production as human food. There is, besides, a large expense for the seed, and a good deal of labor in planting and digging. The cultivation of all the other enumerated roots, is unquestionably attended with much profit for stock feeding, but our countrymen have not engaged in this enterprise to that extent, or with that zeal and intelligence which its advantages would justify. We go back, then, to our starting point, the advantages of cultivating ruta bagas.

They yield an enormous crop. From 15 to 30 tons per acre, or 600 to 1,200 bushels, is not an uncommon yield in Great Britain. It is true they are decidedly inferior to the potato, pound for pound, for feeding purposes; and they are below either the beet, carrot, or parsnip; but their greatly-increased product, the facility of cultivating and harvesting, and the fine condition in which they leave the ground for after crops, should commend them to favor. The expense of seed is trifling, as a few shillings will procure enough for an acre. They are readily dibbled in by a sowing machine, which opens the ground, drops the seed, covers and rolls it; and a horse cultivator is all that is needed for subsequent cultivation. Their broad, fleshy leaves draw largely from the nutritious gases of the atmosphere, while their long, filament rootlets penetrate deeply for the fertilising salts, which they bring up from the remote subsoil, when properly loosened with the subsoil plow. They are easily harvested and cheaply stored, as slight frosts do not injure them; they are

scarcely subject to disease or decay, if fed before the approach of warm weather. Their leaves furnish a considerable amount of manure, which is estimated by an intelligent English farmer, at six dollars per acre, when the crop reaches 20 tons of roots. The leaves also provide an ample shade for the soil (where the growth is large, as it always should be) and this facilitates the absorption of nutritive gases by the soil, and prepares it most effectually for successive crops. The addition to the manure heap from the consumption of so large a quantity of roots, is an additional item of great consequence to the calculating farmer. In feeding these watery roots, cattle and sheep have their appetites whetted for dry forage, however rough or coarse it may be; and the straw of wheat, oats, and buckwheat, the haulm of beans and peas, and even the potato and artichoke tops are greedily devoured and yield no small amount of nutriment. These are important advantages and should not be slightly considered by reflecting farmers.

The soil for the ruta baga should be highly manured and thoroughly plowed and subsoiled. In addition to barnyard and compost manures, bonedust should be plentifully drilled in with the seed. If not previously applied to the field, the farmer may be under no apprehension of using it too plentifully; for it cannot, like an over dose of lime, by any possibility, injure the soil. If finely-ground bones or sawings are used, 8 or 10 bushels per acre will suffice; if coarse, from 30 to 40 bushels may be safely applied; and whatever is left in the ground, after the turnip is taken off, as most of it will be, will yield in subsequent years, all the turnips' food by slow decay in the soil. Bonedust is a peculiarly appropriate food for the turnip, from the great proportion of phosphoric acid which both contain.

Of the merchantable manures, guano, perhaps, is more valuable for turnips, as in addition to the large per centage of phosphoric acid, which is readily given up to the crop, it furnishes with equal promptness, almost every element required by the turnip, excepting water; and this even in seasons of the greatest drouth, will be supplied from the atmospheric vapor, if the plow and subsoiler has been first thoroughly applied, and the horse cultivator afterwards.

Next to guano and bones, plaster may be reckoned the best application. This yields lime and sulphuric acid, both of which the turnip greedily devours; and it helps it to large quantities of its watery aliment, by condensing the dews and vapor on its leaves and roots. Salt yields it soda, and like plaster, helps it to atmospheric vapor. From five to eight bushels of salt per acre will suffice. Both soot and charcoal attract moisture, and draw large stores of nutritious gases from the air. The farmer can hardly go amiss in manuring for the turnip, provided he but apply it abundantly.

After mellowing the ground sufficiently with the plow and harrow, if at all inclined to wet, (as heavy clay and some peaty soils often are, when not underdrained,) the earth should be thrown into slight beds, or ridges, of the required distance between the rows. In all other cases, plant on a flat surface, at the rate of two or three to five or six pounds per acre, according to the nature of the soil and the apprehension of loss from the fly, beetle, and other enemies. A few ounces of seed would suffice for an acre if each matured a bulb; but as many seeds do not germinate in stiff or too dry soils, or are destroyed or perish soon after germination, it is always safer to plant abundantly and thin out with the hoe when cultivating.

Turnip cultivation, in Great Britain, has resuscitated more land, and been the means of yielding her more wealth during the present century, than any other crop she has grown, with the exception, perhaps, of their forage plants. It is not simply the amount of value yielded by the turnip alone, but it is the increase in the manure heaps, and the high condition in which the land is left for subsequent crops, that has made the cultivation of the ruta baga so valuable to that country. Her moister climate and milder winters, allowing the feeding this bulky crop on the field, without injury to the roots from frost or suffering to the sheep or cattle from inclemency of weather, render this root much better adapted to her agriculture than our own. Yet the realisation of such vast advantages by her, may well incite American farmers to test the merits of this system for some of their own fields.

May we ask, in conclusion, that some of our observing farmers will favor us and their fellow readers with the results of some of their experiments in raising this valuable root?

SOWING INDIAN CORN FOR SOILING.

We cannot too often remind our readers of the great advantage of sowing corn for green fodder, where it is valuable, which is always the case in the vicinity of cities and the larger class of towns. By commencing the sowing the latter part of this month, and continuing the operation each successive week or ten days till August, a constant supply of choice food will be secured during the remainder of the season, when it will be most wanted. The natural grasses of the pastures, when closely fed, begin to give out in July; and if the season prove dry, they frequently continue short for several months. A comparatively small quantity of land, richly supplied with manure, finely prepared and cultivated, will yield an immense quantity of sweet, nutritious fodder during this time of drouth. From the experience of our best dairymen, an acre of corn, thus cultivated, will supply ample food for four cows during three months. It may be fed from racks or mangers in the yard, or in the stables, if they are not too warm; or, it may be scattered from a cart upon the ground, after which the cattle may be admitted, where they will devour the whole—stalks as well as the blades.

If the fodder be wilted a few hours in the sun, previous to giving it to the animals, it is believed to be more wholesome and less likely to produce hoven, or wind in the bowels, than when given to them green.

QUALITIES OF LIME AND ITS COMPARATIVE VALUE FOR AGRICULTURAL PURPOSES.—No. 2.

LIME *is slightly soluble in water*, a property which is so essential to enable it to undergo in itself and effect in other matter, those chemical and mechanical changes before alluded to. The solvent power of water upon lime is in the inverse ratio of its temperature. At 32,° water dissolves $\frac{1}{630}$ of its weight of lime; at 60° $\frac{1}{770}$; and at 212,° only $\frac{1}{1270}$; and as the ordinary temperature of water in soils seldom exceeds 60°, and frequently is near 32,° it follows that in this condition, it acts with nearly its maxium influence on lime.

Another property of lime, we have no doubt is true, though in the yet imperfect state of agricultural science, we are not absolutely certain of it; and if true, it is of incalculable advantage in promoting the growth of vegetation and that too from the gratuitous supplies derived from the atmosphere. When lime is mixed with damp manure and rich vegetable loam, in the shade, it condenses nitric acid, which immediately combines with the potash of the manure, forming nitrate of potash (saltpetre). That this operation is going forward in rich calcareous soils, hardly admits of a doubt, especially when shaded by a rank vegetable growth, and occasionally stirred in the process of cultivation. The value of both nitric acid and nitrate of potash to vegetable nutrition, has too often been tested to admit of doubt. Professor Johnston in his ingenious and valuable essay on lime, published in the Highland Quarterly Journal of Agriculture, in which many of the probable beneficial operations of lime are detailed corroborates this opinion and attributes not only the formation of nitric acid, but ammonia, also, "at the expense of the free nitrogen of the atmosphere, from the presence of calcareous matter in the soil."

There is a great difference in the value of the various limestones for agricultural purposes. When burnt, some contain considerable proportions of phosphate of lime, the remains of innumerable infusoriæ, coprolites, and some species of the coral, the aggregation of ages of insect and other animal remains, in the indefinite past. Phosphate of lime is the principal fertilising material of bones, and enters into the composition of every vegetable; its importance must therefore be readily appreciated. And this is the reason why one species of limestone yields what is termed lime, but which is really quicklime associated with the phosphate, so much more valuable for agricultural uses than others, which approximate more nearly to a pure carbonate. Many of the limestones of Kentucky and other parts of the Union, and more frequently the marls, yield a large per centage of phosphate of lime; and wherever such are attainable, their application to soils is attended with the best results. The yield of fertile lands is augmented, and the resuscitation of worn-out soils is speedily accomplished where such a dressing is used. There are other limestones which yield only an impure lime, mixed with considerable quantities of other minerals or earth, of no utility for agricultural purposes.

Oyster-shell lime, or that derived from other shell fish, both of marine and fresh-water origin, is generally superior for agricultural purposes, to such as is derived from other sources; not only from its containing nothing but what is useful, but especially as yielding a noticeable quantity of phosphate.

Magnesian lime has its value in agriculture. This is apparent from the analysis of the ashes of all vegetables. None are without magnesia. Wheat contains about 0.9 per cent.; barley almost 2; the bean and pea nearly as much, and their straw and the clovers and lucern, from 2 to 3.5. Besides contributing to the food of plants, its alkaline properties act on soils and manures in a manner similar to lime, but in a more intense degree. Wherever applied, therefore, it must be in quantity considerably less then when the pure lime is used.

The effect of lime upon crops is to mature them earlier, and give a fuller, healthier growth. The best sugar plantation in Louisiana, which gives the largest average yield of sound, convertible juice, has great quantities of muscle shells, in every stage of decomposition, scattered throughout the soil. Wheat is found to be fuller and heavier when grown on well-limed or calcareous soils. The stalk is not so liable to rust, or mildew, and it yields a brighter, cleaner straw. The potato rot, which has devastated not only fields, but whole countries, has in many instances, been checked or wholly prevented by the use of lime. Lime seldom or never does injury either to the soil or crop, unless applied in excess; and in nearly all cases, its application is attended with the best results.

The application of lime may be made either after burning or grinding, but the former is by far the most speedy in its effects. In this case, it is reduced to an impalpable powder, it may be a thousand times finer than by the most efficient artificial grinding, so much more perfect are the chemical operations of nature than the mechanical ones of man. In consequence of this minute division, every particle of the lime is brought into intimate contact with the soil and exerts its full influence; while the unburned though finely-divided limestone may require many years, and probably centuries of them to yield all its benefits. The difference to the soil is analogous to that of an animal swallowing unbroken grain and cooked meal. In the former case, the grain may possibly be voided before digested; in the latter, every particle of the farinaceous nutriment has been developed by the expanding heat, and is thus ready for immediate assimilation by the stomach.

It is important to secure the maximum benefit of lime, that it be kept near the surface. Air, moisture, heat and light are all important agents in effecting chemical changes in the soil; and these are only to be found at or near the surface. From its greater weight, there is a constant tendency to sink, not only from the operations of the plow, spade, &c., but from the washing of rain, the operations of moles, earth worms, and

insects, besides such portions as are dissolved and carried down. This consideration should induce a frequent application of small quantities, say 20 to 40 bushels per acre, as often at least, as once every three to five years. And to secure its immediate action, which is not felt for one or two years, it may be intimately mixed with four or five times its bulk of rich turf or loam, and allowed to remain for a few months or a year, when it will be ready at once to commence its work of regeneration in the soil, besides yielding a valuable manure in the rich loam with which it has been mixed.

Sowing Broom Corn.—The best soil for this plant is similar to that required for maize. It should be rich, warm, and not subject to early frosts, like the "intervals," or "bottoms," of the Connecticut, the Mohawk, the Sciota, &c. The best crops are usually raised on a green sward, turned over as late as possible in the fall, to kill the worms. But if the land be poor, it must be enriched by a liberal supply of well-decomposed farmyard dung, with additions of guano, plaster, oyster-shell lime, or poudrette. It should be planted as early as the 15th of this month, in hills, about two by three feet apart. If the seed be good, drop 15 or 20 of them into each hill, and cover them from an inch to an inch and a half deep.

When properly cultivated and brought in good condition to the New-York market, broom corn, of the best quality will now sell for $100 to $250 per ton.

THE WYKOFF FARM.

This farm contains about 230 acres, and lies in Manalapan, Monmouth county, New Jersey. The stage road from Freehold to Hightstown divides it near the centre, thus making a handsome front on each side. Six years since, it was purchased by Mr. Ellis, and was then under an ordinary course of cultivation. Now it has been so much improved by Mr. E. that it is worth one third more than he gave.

Mr. Ellis has on that part of the farm north of the road about 22 acres of low ground considered by its former owner valueless, only for coarse pasture. By ditching and draining, he has discovered within the past five years, a vast reservoir of vegetable matter, which has been hid from observation by a layer of peat, which covered the entire field from 6 to 12 inches in depth. Under this, is the vegetable substance, resembling, in appearance, dry horse manure, which I think is a fair representation of that article in quality when warmed by a good mixture of lime. The layer extends from 3 to 10 feet in depth.

By untiring industry, Mr. Ellis has already brought a portion of this waste land into cultivation. While he has been preparing this part of the waste by ditching, he has materially improved his upland by applying to it what he has taken from the ditches. His process has been to cart the substance taken from the ditches to the high ground, then compost it by mixing slacked lime, one bushel to twenty of the earth. Where manure thus prepared has been applied, 20 loads to the acre, he says the product has been increased one third.

On that portion of the field already reclaimed, he has had four successive crops—first, buckwheat, a light coat of lime applied; second, potatoes, planted in the hill; third, potatoes and pumpkins. This crop completely covered the ground; fourth, oats, which grew full 5 feet high, and were tolerably well filled. These crops were grown on land that, six years since, was a swamp, used only for coarse pasture.

Thus far he has succeeded well in his endeavors to reclaim the entire swamp. By this discovery, he avoids the necessity of carting marl seven or eight miles, which would cost from 25 to 50 cents per load, at the pit. He thus made a manure equally good as the marl; and, if instead of using slacked lime in his compost, he used unslacked, I know not why this compost will not be equally as good as stable manure, as the vegetable substance is impregnated strongly with alkali.

With the skill and perseverance which characterises Mr. Ellis, I think he will soon have all the varieties of grains, grasses, and vegetables usually raised in his neighborhood, growing profusely, and yielding abundantly on that once old quagmire, but now vast manure heap. Something of other parts of Mr. Ellis' farm, buildings, &c., at another time.

A. Sherman.

A VALUABLE SOUTHERN GRASS.

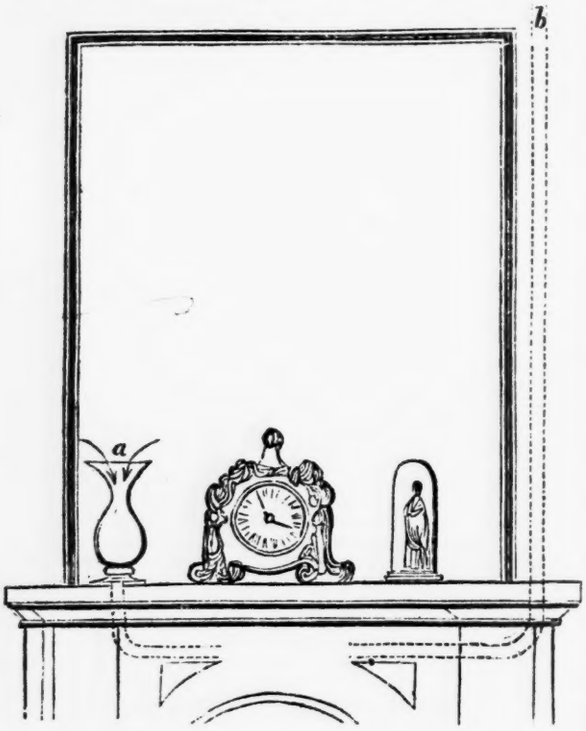
On a recent visit to Millwood, the residence of that noble South Carolinan, Col. Wade Hampton, we noticed a most beautiful grass plot, growing in all the luxuriance of spring, although in gloomy wintry February weather. It is true that such a green spot there appears far more pleasant to the eye than such a spot would in spring in a grass-growing country; because here all around, the earth presents but a bare surface, almost, if not entirely incapable of sustaining cultivated grasses, except at the great expense of preparation which Col. H. has given to the ground now glowing in its verdant coat.

This grass is as yet without a name. Dr. Bachman, the eminent naturalist, of Charleston, at first thought it was the American Canary grass, but on further examination expresses some doubts. It grows about two feet high, with top and seed somewhat like blue grass, (*Poa pratensis,*) only much larger. It is a native wild grass, and may be found from the sea board to the mountains of the Atlantic southern states; and Col. Hampton says will endure frost and drouth better than any other grass he has ever seen growing at the south.

Season for Felling Resinous Trees.—Any time during this month, or the next three months following, all kinds of pine, larch, and other resinous trees may be cut, as the pores of their wood will be filled with resin, which serves to increase the strength and durability of their timber.

THE AIR-SYPHON VENTILATOR.

This new mode of ventilation, a notice of which is to be found at p. 111, of the current volume, was patented by Dr. Chowne, of England, and is based on the principle that, "If a bent tube or hollow passage be fixed with the legs upwards, the legs being of unequal lengths, whether it be in the open air or with the shorter leg communicating with a room or other place, that the air circulates up the longer leg, and that it enters and moves down the shorter leg; and that this action is not prevented by making the shorter leg hot, whilst the larger leg remains cold; and no artificial heat is necessary to the longer leg of the air syphon, to cause this action to take place." Thus, by using the chimney of an ordinary room, for instance, (into which air has free access,) as the longer leg and by conducting a tube or channel constituting the short leg of the air syphon, from any part, (as near the ceiling, for instance,) into the lower part of the chimney, at the suitable place, a current of air will proceed from the apartment down the shorter leg, and away up the longer one.



Air-Syphon Ventilator.—Fig. 45.

The means of ventilation can be conducted by light lead or zinc tubes, passing round and through a room, and finally into the fireplace; and tubes passing from these to the upper parts of the room, the warm air would constantly descend through them to the continuous channel, and then into the longer leg of the syphon.

In the above illustration, the dotted lines, *a*, and *b*, represent pipes about two inches in diameter, which are concealed behind the upper part of the jambs, and communicate with the chimney opening, thus forming an inverted syphon, the flue of the chimney being the longer leg. To draw off the gases or air from the middle portions of the room, a pipe may be conducted from the bottom of an ornamental vase *a*, into the flue, when the air would take the course as shown by the arrows; and to remove the air from the upper portions of the room, another concealed pipe may communicate with a small aperture above the jamb, as at *b*, thereby immediately establishing thorough ventilation.

A peculiar fact is, that this mode of ventilation affords facilities hitherto not known for carrying away the heat, and other products of combustion from gas burners, and other lamps, of which the products are offensive. Again, wherever the air-syphon ventilator is in operation, it is certain, that, should an accidental escape of gas take place, it will not accumulate, but descend from the upper part of the room, by means of the shorter leg of the syphon. This apparatus admits also, of being extemporaneously and temporarily set up in a sick room, so as to cause a constant removal of air from the upper portion of the apartment, where it is so apt to hang about the curtain furniture of the chamber, and to impregnate it with the exhalations which are so often the result and generators of disease.

In a similar manner, the air syphon can be applied to the ventilation of churches, school houses, barns, conservatories, wells, cellars, vaults, &c., &c., In short, if what is said of it be true, it is one of the greatest discoveries of the age.

DISCOVERY OF THE CAUSE OF THE YELLOWS IN THE PEACH TREE.

Although the various journals devoted to agriculture throughout our broad land have teemed with articles on the disease called "the yellows of the peach tree," I believe a small beetle, named in Harris' Catalogue, Tormicus liminaris, has never, until lately, been suspected as the cause of that destructive malady.

I will not presume to say that it is the sole cause of the decline of the peach tree, for I am aware that unhealthy soil, late and hard frosts, the large borer, (Ægeria,) and too profuse bearing, will all injure the trees and cause death; but I believe the little tormicus will be found to produce that disease which is believed by many to be infectious.

Though the Tormicus liminaris, in its perfect state, has long been known to science, its habits in the grub or larva form are little known, and few have been led to search for them in the bark of the peach tree, where they may be found in incredible numbers. They are so minute, that only a close observer would see them; but like the itch mite in the human family, they produce disease, and frequently death.

When the peach tree is infested with the Tormicus liminaris in sufficient numbers to cause disease, the tree will throw out great numbers of sickly shoots, in August and September, at which time the grubs may be found securely feeding in the sap vessels of the inner bark of the tree, effectually protected from all external injury by the hard outer bark. Too minute to attract attention, these little creatures do their work secretly and surely, uninjured by any of

those applications that have so frequently been recommended; for, however beneficial these nostrums may be in other diseases to which the peach tree is liable, they will be found of no avail in this, as any remedy sufficiently powerful to kill an insect so well defended, will also destroy the life of the tree, and their numbers and minute size preclude the idea of destroying them with a probe, as in the case of the common peach borer, the Ægeria.

The tormici assume the beetle form in August, when most of them quit their parent tree, and seek a more healthy home for their progeny; the eggs are then deposited in the bark, where they remain until the following summer, when they come into life, and unsuspected begin their work of destruction.

It will now be seen why the disease caused by the tormicus has been considered infectious, and why the trees most in contact with the sickly tree will be the first attacked, and also, why a tree that has been inoculated with buds from a healthy tree, but on which the eggs of the tormicus have been deposited, will show the disease simultaneously with the tree from which the buds were taken, and thus appear to have been inoculated by the sap.

From numerous experiments tried on trees under my care, I am convinced of the correctness of the opinion expressed by a writer in a former number of this jonrnal, that nothing can be done to stop the disease from spreading, but to cut the tree down, and burn it, root and branch; and thus by effectually destroying eggs, larvæ and perfect insect, prevent the escape of the beetle from the present tree, to the injury of the surrounding ones. Whether in the beetle or grub form, this insect is seldom more than one twelfth of an inch in length; but what is lost in size, is made up in numbers, and thus their destruction becomes hopeless, unless by the sacrifice of the parent tree.

M. H. Morris.

Germantown, Pa., March, 1850.

DECAYED GRAIN INJURIOUS TO STOCK.

I recommended a friend, some time since, to feed his cattle on rotten or refuse corn, which he did, and maintained for a while that it certainly fattened them; but after some time his steer was paralysed. It however soon recovered upon change of food. I have seen no such effect. I have just killed what we consider good beef fattened chiefly in that way. A young friend in this county, P. Graye, was the first who suggested it.

N. M. C.

Calm Point, Va., Feb., 1850.

There is great danger of feeding to animals, diseased or decayed food of any kind. Some species of decay are not injurious, others are positively dangerous. The rot in the potato of late years, has in many instances, not diminished the fattening properties of the root, as it was the tissues or nitrogenised portions of it that were decayed, while all the starch, from which the fat is principally formed, remains unimpaired for some time after the commencement of rot.

So it is frequently with grain. The starch is little liable to decomposition, or disease, and is only induced to it, by the proximity (close juxtaposition) of the albuminous (nitrogenised) parts, which communicate incipient fermentation, which, under favorable circumstances, rapidly proceeds to destructive decomposition.

The ill effects of this species of food is shown in the fact quoted by our correspondent above, that a steer fed upon it became paralysed, and a change was essential to prevent this terminating fatally. We have known a choice herd of swine swept off by feeding on wheat that had been damaged by leakage on ship board. To insure safety under such feeding, a person must know just what he is about, and the precise quality and condition of the article he is feeding.

PATENT-WIRE RAILING.

Below, we give another pannel of the beautiful wire railing noticed at page 81 in our March number. It is well suited for guarding low windows, balconies, and the lighter kinds of fence, as well as ornamental gates. It is strong, durable, and may be painted any color desired.

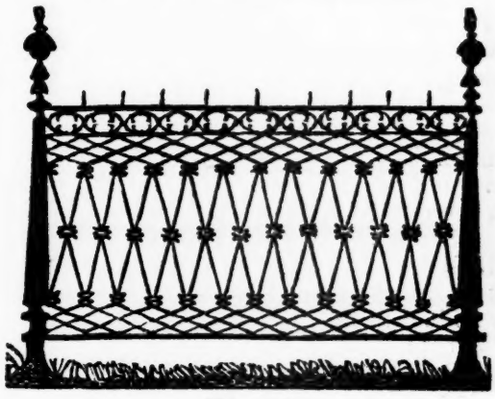


Fig. 46.

This article, we again repeat, may be advantageously introduced in all situations where wood and cast iron are used for railing, grating, &c., at less than half the cost of the latter.

MERINO SHEEP IN VIRGINIA.

My time is now much taken up in improving the old fields and waste lands of this neighborhood, with Merino sheep, which pay a better profit than any other stock or method of farming lately tried in this country. I have purchased and driven into Fairfax and Prince-William counties, between 3,000 and 4,000 head. They are scattered about on different farms and are doing well. They are hardy and yield superior wool, which is in much request with the manufacturer.

I am in want of a shepherd and other assistants, and would give good wages to steady men, and contract with them for several years. It would be a good chance for young farmers here.

H. N. Andrews.

Fairfax, Va., March, 1850.

PROFITS OF FARMING.

From the farm of Wm. Webb, of Wilmington, Delaware, containing 100 acres of strong clayey soil, 20 of which are in pasture, the sales of the produce, in 1848, were as follows:—

Hay,	$716.35
Corn,	557.13
Wheat,	254.00
Oats,	10.00
Straw,	18.50
	$1,555.98

Produce used at home.

7 tons of hay—market value,	$84.00
120 bushels corn, " "	66.00
63 " wheat, " "	63.00
50 " oats, " "	15.00
40 " potatoes, "	25.00
20 " buckwheat, "	14.00
Apples and sundries,	25.00
Summer feed for 2 horses, 2 cows, 4 oxen and 1 hog, the whole stock upon the farm, is worth,	60.00
	$352.00

Making a total of $1,907.98. The sales in 1847 were $1,753.36. The average annual expenses of manuring and working the farm $500.

As a matter of course, manure was a large item in the expense account; for, only a few years ago, this was a very poor farm.

IMPORTED SHORTHORNS.

There has lately been furnished me by a friend, a leaf from the Agriculturist of 1848, with a request that I should give, through the same channel, an opinion upon some portions of Mr. Bates' letter. In his letter to Mr Vail, he says, "No animals of the Princess blood can now be had in England, *worth sending* to America, except what I have, descended from the Matchem cow, the grandam of your Wellington; and that tribe was only preserved by putting the Matchem cow to bulls of my Duchess family. * * * I have been thus particular to let you know how highly I prize this tribe, the *only one* left, of any value, from the Princess tribe of cows."

Now this is a very extraordinary sentence. Are we to believe that there is nothing worth sending to America, of the Princess tribe, except the few Mr. Bates had? I have no doubt but the animals imported last spring by Mr. Stevens, of the Princess tribe, were really fine. And I suppose Mr. Bates must have let his prejudice get above his judgment. I think, however, Mr. Stevens is mistaken in saying "The pedigree of the Princess tribe traces farther back than any one recorded in the Herd Book." But I presume the reasons upon which my opinion of his error is founded would not be interesting to your readers. Mr. Stevens says, in speaking of 3d Duke of Cambridge, that "he is the only bull in America got by Mr. Bates' crack prize bull, Duke of Northumberland," &c. I would inform Mr. Stevens that Locomotive, brought to Kentucky by Mr. Letton, was got by Mr. Bates' "*crack prize*" bull, Duke of Northumberland, and his dam was Mr. Bates' "*crack prize*" cow Oxford. And here, permit me to say, that Mr. Bates' Oxford cow was got by Duke of Cleveland, (1,937,) a bull of the Daisy and Duchess tribes. And here I hope Mr. Stevens will permit me to correct an error into which he has fallen. He says, (page 67 American Head Book,) that Mr. Bates, "Up to the introduction of Belvedere to his herd, had adhered to his Duchess blood entirely (except in the case of two or three cows, put to Marske). * * * * Since 1831, Mr. Bates has used that blood, a union of the Duchess and Princess tribes, mainly, and has only resorted to any other in one instance, viz: Cleveland Lad." Mr. Bates bred to bulls of other tribes in many instances. I shall content myself by giving a few specimens, and those that are interested can trace the matter much further by examining the Herd Book. In vol. iii., Coats' Herd Book, you will find that Belvedere, (1,706,) was calved in 1826. I suppose he was introduced to Mr. Bates' stock in 1831. You will find also, (page 355,) that Duke of Cleveland, bred by Mr. Bates, was calved September, 1831, and was got by Bertram, (1,716,) a bull of the Daisy tribe. In 1835, Mr. Bates bred Duchess 33d to Norfolk, (2,377,) a bull neither of the Duchess nor Princess tribe on the dam's side. In 1833, (page 354,) Duchess 19th had a c. c., Duchess 35th by Gambier, (2,046,) and he was neither Duchess nor Princess tribe. In 1833, Mr. Bates' Matchem cow had a roan c. calf by Gambier (2,046,) and in 1834, she had a roan cow calf Oxford, by Duke of Cleveland, (1,937). Both these bulls were got by Bertram, (1,716,) a bull of the Daisy tribe. Of this bull Bertram, (1,716,) Mr. Coats, editor of the English Herd Book said, "This bull combines more perfection in form, handling, and dairy qualities, than any bull I ever saw. I consider him very much superior to Old Comet, bred in my neighborhood and sold by public auction for 1,000 guineas." That the Daisy tribe of shorthorns were considered by bidders at C. Collings' great sale, in 1810, equal to any others, is evident in the fact that a cow of that tribe, (Lilly,) sold for 10 guineas more than any other cow of any other tribe.

In the January number of the Cultivator, is given Mr. Bates' opinion, that the Duchess tribe of shorthorns is superior to all others; but I should not be disposed to attach much value to his opinion, after reading his letter to Mr. Vail, about the worthlessness of all the Princess tribe of cattle, *except what he had.* Mr. Chapman has attributed too much Duchess blood to the Duke of Northumberland. He is not even a quarter Duchess. Mr. Vail's Duchess, according to pedigree given on page 54, January Cultivator, can have no more than an eighth of Duchess blood in her—3d Duke of Cambridge can have no more than Mr. Vail's Duchess.

I heartily concur with Mr. Chapman in the hope that some of our enterprising citizens may introduce some of the best of Mr. Bates' herd. But, as to the Duchess blood "*without alloy,*" there is no such thing in existence. You would be astonished to see how little of the "*pure*" Duchess blood there is in any of them. But I

do not consider Mr. Bates' stock any the *less valuable* on that account. The Oxford premium cow no doubt owed her excellence to the union of the three tribes, the Daisy, Duchess, and Princess; and I believe that none of these tribes can be kept pure for a great length of time without endangering their health, thrift, and productiveness. Mr. Bates' herd was nearly ruined before he introduced the Princess and Daisy blood.

Mr. Bates' stock, if equal to their reputation, would be a great acquisition to the breeders of shorthorns in the United States, particularly in those situations where the breeder was near market; but a circumstance mentioned in his letter to the publisher of the plate of his bull, Duke of Northumberland, is indicative of great tenderness or bad travelling, or perhaps both. In that letter he says, "Duke of Northumberland, in twenty-six days' travelling, lost 392 lbs., or more than 15 lbs. a-day." I suppose he was driven with as much care as possible. If his stock should communicate this quality to their descendants, they would be in a very sad plight after a travel as far as from Kentucky to New York. However, I would like to have some of his stock and run the risk of their descendants' travelling, after they were fattened for market.

I have written the above not in a spirit of controversy, but to correct erroneous impressions. And to show that even Mr. Bates' stock owes a part of their excellence to other blood beside the Duchess, Princess and Red-Rose tribes. His old Duchess cow was by Daisy bull, (186,) so that he started with as much Daisy as Duchess blood; and Duchess 1st, bought at Mr. Colling's sale, in 1810, was by Comet, (155,) her dam by Favorite, (252,) grandam by Daisy Bull, (186,) great grandam by Favorite, (252,) great grand grandam by Hubback (319). From this pedigree, it will appear that Mr. Bates' cow Duchess the 1st., had only $\frac{1}{32}$ part of Duchess blood to begin with; there were 31 parts of other blood, and only one of Duchess. As little as this is, it has been diminished since by other tribes having come into the family, as the Daisy, the Red-Rose, and Princess. However, I suppose there is enough "*Duchess blood*," to brag on, left.

Mr. Bates, in his extraordinary letter to Mr. Vail says, "I have never seen one of the Princess tribe after a cross of any other blood, than the Duchess tribe of bulls, ever breed well again." Yet his Oxford cow is directly in proof of the fallacy of the assertion. The dam of his Oxford cow was by Matchem, a bull of another tribe, and his Oxford cow herself was by Duke of Cleveland, (1,937.) a bull of the Daisy and Duchess tribes.

SAMUEL D. MARTIN.

Near Colbyville, Ky., March, 1850.

Our readers will find an answer from Mr. Stevens, to the above, at page 150, so far as it relates to himself personally. Mr. Stevens requests us to say that he will, in a future number, reply to those parts of Dr. Martin's article, which he has not noticed in this one.

TRIAL BETWEEN TWO AND THREE-HORSE PLOWS.

A PLANTER on the Roanoke River, North Carolina, informs us that he made a trial to see which would do the most work in a day, six horses in two plows, or six horses in three plows, with the following result:—

The two plows worked 9,500 corn hills, and the three plows worked 12,480. Number of hills to the acre, 2,172. Length of rows, 720 yards. Some of his rows were 1,300 yards long; he never makes short rows when it is possible to make long ones, as in his opinion a team will do ten per cent., at least, more work in long rows than in short ones, and with less fatigue.

In the above-named trial, the plowmen were not aware of the experiment until after the work was done.

SHEEP SHEARING AND SACKING WOOL.

THIS should not be done sooner than the season will admit, as the sheep would be in danger of taking cold. Wool, intended to be sent to a distant market, may be put up and pressed in bales after the manner of cotton, or it may be crowded into sacks holding from 200 to 250 lbs. If designed to be shipped on a long voyage, it would be more economical to press it into square bales, as it would then occupy less bulk, and consequently effect a saving of freight. But in the interior of a country where conveniences for baling are not always at hand, sacks may be employed, made of 40-inch "burlaps," or 45-inch "gunny cloth," 7½ feet long. Each of these sacks may be made of a piece of cloth 5 yards in length, by doubling the ends until they meet, and sowing up the sides with twine.

The mouth of a sack may next be sewed to a strong hoop of wood or iron (diameter 25 inches for the burlaps, and 28 inches for the gunny cloth); then let down its body through a circular hole, two inches less in diameter than the hoop, cut in an upper floor of the building, or of a temporary scaffold erected for the purpose, where it can swing clear beneath. One man may then get into the sack, while another hands him the fleeces, which he should place in regular layers, pressing them down in the mean time, with his feet, until it is filled. After this, the sack may be slightly raised, the hoop disengaged, the mouth of the sack sewed up with twine, and the operation is complete.

MANAGEMENT OF ANIMALS.

In breaking or managing a horse, however intractable or stubborn his temper may be, preserve your own. Almost every fault of the brute arises from ignorance. Be patient with him, teach and coax him and success, in time, is certain. There are tricks, however, which are the results of confirmed habit or viciousness. and these sometimes require a different treatment. A horse accustomed to starting and running away, may be effectually cured by putting him to the top of his speed on such occasions, and running him till pretty thoroughly exhausted.

A horse that had a trick of pulling at his bridle and breaking it, was at last reduced to better habits, by tying him tightly to a stake driven on the bank of a deep stream. With his tail pointing to the water, he commenced pulling at the halter, which suddenly parting, over the bank he tumbled, and after a somerset or two, and floundering a while in the water, he was satisfied to remain at his post in future, and break no more bridles.

A ram has been cured of butting at everything and everybody, by placing an unresisting effigy in a similar position; when the sudden assault on a wintry day, resulted in tumbling his ramship into a cold bath, which his improved manners took good care to avoid in future.

A sheep-killing dog has been made too much ashamed ever again to look a sheep in the face, by tying his hind legs to a stout ram, on the brow of a hill, while the flock were quietly feeding at the bottom. On being set free, and somewhat startled at setting out, in his haste to rejoin his friends, he tumbled and thumped master Tray so sadly over the stones and gullies, that he was quite satisfied to confine himself to cooked mutton thereafter.

Man's reason was given him to control "the beasts of the field and the birds of the air," by other means than brute force. If he will bring this into play, he will have no difficulty in meeting and overcoming every emergency of perverse instinct or bad habit in the dumb things, by his superior cunning.

MR. ROBINSON'S TOUR.—No. 17.

North-Carolina Farming.—Having heretofore given some items of the products and expenses of cotton, sugar, rice, and wheat culture, I will now give, by way of comparison, the amount of expense and sales of a corn plantation on the Roanoke River.

The tract contains 1,785 acres, valued at $13 per acre. About 1,250 acres of it are open land; 650 usually in corn, the remainder in grass, or "resting." It is composed of rich alluvial bottoms, which are liable to overflow, and "high land ridges," that are comparatively poor. The corn is usually planted upon the richest land, 1 foot by 5, and on the upland, 4 ft. 9 in. by 3 ft. 3 in., one or two stalks to the hill. The average yield, last year, 29 bushels to the acre. The land is deep plowed with two or three horses or mules, and almost exclusively worked with plows, particularly upon the upland, and at the last working, sowed with peas. These are fed off by cattle and hogs, of which more are kept than enough for plantation use, though the proprietor is of opinion that keeping cattle upon a grain farm, is poor business. His cattle only pay six per cent. Hogs should only be kept to just that extent required for home consumption and to eat the offal. Feeding corn, at 50 cents a bushel, makes dear pork. Hogs are considerably fattened upon peas and oats, the latter being sown in large quantities to furnish pasturage for hogs and horses. Corn is usually planted the last of March or first of April, and is ripe enough to commence gathering the second week in October. [?]

The following tables of expenses and sales will be found interesting. It is to be presumed that a full supply of wool for clothing the negroes is grown upon the place, and that the proprietor never bought an article of provisions. The usual average number of hogs, about 200 head, and cattle 100 head. Horses, mules, and colts, 30, sheep, 100. Stock winter in the corn fields. All the land, except some wet spots, is cultivated upon the "level system." That is, the ground is plowed as deep as it can be, and then furrowed with a two-horse plow and planted in the bottom of the furrow, and covered with plow or cultivator. Great benefit has been derived from ditching, draining, and *deep plowing*; and that, the proprietor believes, will improve almost any land, and increase its productiveness as it will be seen has been done upon this.

1844.—PLANTATION EXPENSES—25 FULL HANDS, 19 PLOWS.

Overseer's wages,	$160.00
Hire of 8 hands,	210.00
Clothes and taxes for hired hands,	50.00
Bagging and rope,	91.56
Iron, salt, and plows,	45.00
Clothing bought,	25.00
Hats and blankets,	36.00
Taxes on negroes,	50.00
Physician's bill,	40.00
	$707.56

80 acres of cotton made this year, yielded 1,500 lbs. an acre of seed cotton. Interest on $31,500 capital, 6 per cent., $1,890. Amount of sales, $4,840.25, or a fraction less than 16 per cent. on capital.

1845.—22 HANDS—14 HORSES.

Overseer's wages,	$200.00
Hire of 4 hands,	158.00
Nails, spades, shoes, &c.,	13.00
Salt, $12, taxes, $55,	67.00
Physician's bill,	45.00
	$483.00

Capital same. Sales $4,138.78. Credit plantation for articles at selling prices. $298.34. Total, $4,437.12. Crop all corn, 540 acres, 12,975 bushels, or 2,595 barrels, sold for $2.58 a barrel, at home. Net to hand, $181.75, over 15 per cent. on capital.

1846.—24 HANDS—15 HORSES.

Overseer's wages,	$225.00
Nails and salt,	17.63
Plows, scythes, &c.,	54.67
Clothing and leather,	20.52
Hats and blankets,	52.02
Cotton cloth, plows, &c.,	53.25
Cotton yarn, $13, taxes, $60,	73.00
Hire of one hand,	50.00
Physician's bill,	80.00
	$626.09

Sales, $4,828.18. Corn at $3.64 a barrel.

Crop lost by flood on low ground. Net to hand, $173, and over 14 per cent. on capital.

1847.—26 HANDS.

Overseer's wages,	$250.00
Hire of one hand,	40.00
Salt $16, leather, yarn, &c., $21.50,	37.50
Nails, leather, cloth, and sundries,	100.36
Cutting oats, $10, taxes, $60.	70.00
Blacksmith's bill,	68.92
Physician's bill,	52.25
Lard kegs, $9.88, plows, $15,	24.88
	$643.91

Sales, $5,983.17. 600 acres of corn, sold at $2.46 a barrel. Net to hand, $205.75.

1848.—28 HANDS—CAPITAL $42,765.

Overseer's wages,	$275.00
Hire of two boys,	108.00
Salt, $14, taxes, $68,	87.00
Cloth, leather, hats, &c.,	136.47
Cutting oats and wheat,	12.00
Shoes, $9, blankets, $32,	41.00
Iron and plows,	68.00
Physician's bill,	47.00
Blacksmith's bill,	65.92
	$840.39

Sales, $5,006.51. Corn $2.12½ a barrel—650 acres. Net to hand, $148.75.

The proprietor has just commenced the use of lime and is of opinion that it will pay a profit upon the expenditure more certain than any other outlay he can make. The Roanoke Bottoms, that are overflowed upon an average once in seven years, will yield eight and a half barrels of corn to the acre, including years of loss. The average value of such land is about $15 an acre. The uplands, may average $2.50 an acre, and yield about two barrels, (ten bushels,) to the acre. The best corn land on the river will average 10 barrels.

In connection with this subject, I give the following statement of another place near Tarborough, upon which the principal crop is cotton. The average number of full hands, 25, and average amount of expenses per annum, $650, of which $300 is for overseer's wages. It is worthy of remark, that the same overseer has been in the same employ fourteen years. The proprietor took possession of the place in 1844, and the sales that year amounted to $1,500.

In 1845, $2,500. 1846, $4,200. 1847, $4,500 1848, $4,600. 1849, $4,200, leaving still on hand about $400 worth of surplus. During the same time, complete new buildings and fences have been erected, and the value of the land more than doubled, and more than quadrupled in productiveness.

Now how has this been accomplished? By ditching and draining swamp land, naturally rich, but too wet to produce any crop; by using improved plows, and plowing the old fields up deeply; by *creating* manure for the poor barren sands; but principally by digging and spreading immense quantities of marl, or rather, sea-shell deposites, which, until now, had lain idle and useless, while the former owner was starving. This marl contains about thirty per cent. of carbonate of lime, and in some instances has been used at the rate of 600 bushels to the acre, so that from being one of the poorest, this farm has now become one of the most productive in the country. His average to the hand, last year, was $222, and although cotton brought a high price per pound, his crop was unusually light—200 acres produced 53,000 pounds. He makes all his provisions, and nearly all his clothing. His rations are five pounds of pork per week, for all field hands, and all the bread and vegetables they will eat. He now averages six barrels of corn to the acre upon land, that, before it was marled, would not average two. Plants cotton last of April and corn first of May.

HOME-MADE GUANO.

PERMIT me to inform some of your readers how I supply myself with guano of domestic origin. My privy stands square on the ground without any excavation or vault underneath. A board 12 inches wide swings upon a pair of butts, or hinges, on the back side. Turning this up, I sometimes throw under the seats two or three barrow loads of muck; and with a long-handled, shovel used for digging post holes, to be found at any of the hardware shops, I withdraw the richest material for composting to be found in the world.

But this is not all the advantage to be derived from my practice. Keeping the excrementitious matter constantly sprinkled with plaster, (gypsum,) and frequently removing the deposites, especially in summer, my privy is usually as sweet and clean as a parlor, exhaling no offensive nor unwholsome odor, and rendering the devotion due to Cloacina a pleasure rather than a penance.

Some sensible people effect this last object by other expedients, though too many are disgustingly slovenly about this really important matter, so far as decency and comfort are concerned; but my plan enables me to have a very considerable quantity of a fertilising agent, that would make Prof. Norton's Scotchman *smack his lips and snuff up his nose with an unction!* S.

MANURES--THE FOOD OF PLANTS.—No. 1.

ALMOST every farmer seems to be aware of the fact, that, by the application of manure to his lands, his corn and other cultivated crops are usually very much increased in quantity; and this increase is generally in a corresponding ratio, to the quantity of manure applied. The great body of the farmers in this country, depend entirely upon that made by their farm stock, and upon that alone. This is applied to the soil in some form, for the reason it causes the plants to grow more vigorously, and to yield larger crops than could be obtained without it.

The almost universal good effects of manure upon farm crops have been so constant and general, that most farmers have remained content with a knowledge of the bare fact, without troubling themselves to ascertain the "why" and the "wherefore" of it; and could every

farmer have a full supply of manure, he would be under no particular necessity of studying into the chemical composition of his farmyard manures.

But among farmers, especially on long-cultivated farms, there is a general complaint of not having a sufficiency of manure to grow either large crops, or to increase the fertility of their exhausted fields. Then it becomes important, in a pecuniary point of view, to the farmer, to learn the nature and properties of the *individual* constituents—the raw material, as it were, that make up in the aggregate, the growth of his cultivated crops, and also, those elementary substances that compose his manure heap. Having ascertained these important and easily-acquired facts, he is then prepared to act understandingly, and by this knowledge, he is frequently enabled to obtain a great variety of materials within his reach, that will serve as substitutes for his barn manures, and at a much less cost than he could purchase stable manure.

To attempt to explain, in a familiar way, some of the principles alluded to, is my object in writing this. The hay, corn fodder, straw, roots, and grain, fed to farm stock, derived their growth from the constituents of the soil, the atmosphere, and water. The food given to an animal, in its passage through him, parts with some portions of the several substances drawn by the plants from the soil, &c. For they are taken up by the assimilating vessels, purposely prepared in the animal, for supplying its daily physical wants, and adding to its growth, if a young animal, and for the purpose of laying on fat and increasing its weight of muscle, &c., if intended for the shambles. Another portion is consumed for the purpose of respiration, and passes off from the lungs as carbonic acid gas. The balance of the food is voided in the excrements—liquid and solid. The great bulk of the solid part consists of masticated vegetable matter, dead plants and their seeds, in a partial state of decomposition, but all, substances of vegetable origin, which, as they formerly constituted living plants, must necessarily contain those matters required for a new growth of similar plants; for it is one of the immutable laws of creation, that the death and decay of one generation of plants and animals, shall contribute to the sustenance and growth of succeeding ones. Then, in general terms, the above explanation gives us the reasons why farmyard manure acts so favorably in increasing the amount of farm produce.

But I remarked, that it was important that the farmer should know the nature and properties of the individual substances that enter into the composition of the plants he cultivates; for, by knowing these substances, he is prepared to make use of many materials within his reach, that answer as substitutes for his farm manure. For this knowledge, we are indebted to the researches of the chemist. From him, we learn what portions of the plant are drawn from the soil, and what from other sources. From the soil, are derived the following-named constituents of plants, namely, potash, soda, lime, magnesia, silex, iron, manganese, alumina, sulphur, phosphorus, and chlorine. These are termed the *inorganic* constituents of plants, and are taken into the plant from the soil, (by the endosmose action of the extremities of the roots,) dissolved in the water of the soil; and in the plant, they are applied to the various parts, fulfilling, so far as these inorganic bodies are concerned, those special purposes, for which they were designed in the different vegetable products of the earth. These inorganic substances constitute that portion of plants and their seeds, that are left in the form of *ash* after they have been burned. The ash, in general, forms only a small proportion of the weight of the plant. 100 lbs. of wheat leave less than two pounds of ash when burned, the same weight of dry pine or fir wood often leaves less than half a pound of ash, while hay and straw leave from five to ten pounds, from every hundred weight of the dried plant. But small as is the amount of ash that is found in plants, (which ash is made up of the several substances already named,) they are all absolutely essential to the full development, and perfect maturity of the seed-bearing plants.

A soil which is naturally so fertile that it will grow a long succession of crops, without any addition of manure, is found, upon analysis, to contain in its inorganic parts a *notable* portion, or quantity of the several chemical substances above named—potash, soda, lime, &c. Soils are thus constituted in good land, when nearly cleared of the forest growth; and such is the character of the fertile soils of the prairies and other rich lands of the west. But each successive crop harvested removes a portion of these important ingredients from the soil, and annual croppings, without suitable returns of manure in some form or other, sooner or later, reduces these fruitful lands to a state of sterility.

LEVI BARTLETT.

Warner, N. H., Feb., 1850.

IMPORTED SHORTHORNS—REPLY TO DR. MARTIN.

DR. MARTIN's article having been shown me, I deem it proper now, to correct his errors, so far as he refers to me. The Doctor thinks me mistaken in saying that "The pedigree of the Princess tribe traces farther back than any one recorded in the Herd Book." Now the Princess tribe traces back in the Herd Book, in *named* animals to Tripes by the Studley bull, in 1740. None except the Princess and the Wildeyes can, by *named* animales or *known* crosses, be traced a year beyond 1770, and only one tribe beside the Princess and Wildeyes to 1770, and that. Lady Maynard, Comet's family. The Duchess, Daisy and Red-Rose tribes cannot be traced in *known* crosses, a day beyond 1780. I am now speaking of what is *recorded* in the Herd Book. Nothing, whatever, is known in or out of the Herd Book, of the Duchess, Daisy nor Red-Rose tribes, prior to 1780; only that they were good cattle; and of Lady Maynard, (or Favorite's and Comet's tribe,) beyond 1770, it is *known* that they *were bad* cattle. Now of the Princess family, their *printed* pedigree, in the Herd Book, goes to

1740; and authentic records carry them back to 1600, to the Aislabies at Aislabie, Durham, and through Mr. Stephenson, of Acklam, and Mr. Stephenson his son of Ketton, to Mr. Pickering, who bred Tripes in 1748, got by the Studley bull calved in 1740. Thus it will be seen that the Princess tribe, by the Herd Book, traces 30 years further back than all others, and 40 years further back than all others except Lady Maynard. Of course, I am right and Dr. Martin is wrong.

In saying that the 3d Duke of Cambridge "*is* the only bull in America got by Mr. Bates' crack prize bull, Duke of Northumberland," I meant that he *was at that time*, July 1849, the only one in America so got. I had been informed that Locomotive was dead, and wrote so supposing. Was I not rightly informed? Will Dr. Martin please to inform me? I well know, and knew then, how Locomotive was bred, and that he had been imported; and meant merely that, as Locomotive was dead, Cambridge was then the only son of Duke of Northumberland, in America; as these two are the only sons of the Duke that ever were imported.

I used the phrase "up to the introduction of Belvedere to his, (Mr. Bates,') herd, he had adhered to his Duchess blood entirely, except in the case of two or three cows put to Marske, &c." By this, I meant he had only *run* the blood of Marske, Belvedere, and Cleveland Lad, (and his tribe,) *permanently* into his herd. Mr. Bates used Bertram to only one Duchess; the produce was Duke of Cleveland, and he was used only to get steers. He was sire of Oxford premium cow, and his blood has never been suffered to go into the herd at large, and never will be. Bertram was used to only two Red Roses; the calf of one by him died at 6 months, the other, Red Rose 10th, bred but one calf, a bull, called Red-Rose Bull, and him Mr. Bates never used. Gambier was put to only one Duchess, and the produce, Duchess 35th, was never *suffered* to breed, for she was killed early. Mr. Bates carefully exterminated the blood of Bertram and Gambier from his herd, and not a drop of it is to be found any where in it, except in Oxford 4th, a daughter of Oxford premium cow, and her two calves. The calf by Gambier out of Matchem cow, was never suffered to breed. Norfolk and Marske, like many other animals, descended from Robert Colling's herd, do not show their full pedigrees in the Herd Book. Marske was a Princess tribe bull; what Norfolk was, I will show hereafter, and Dr. Martin will perhaps discover he is no exception to the rule I have stated as to Mr. Bates' breeding. Mr. Bates never suffered any blood not his own to come *permanently* into his Duchess, Red-Rose, Waterloo and Wildeyes tribes, other than that of Belvedere, Marske, Norfolk, and of Matchem cow.

I take occasion here to say that the Matchem cow and her produce, Oxford premium cow, Cleveland Lad, Cleveland Lad 2d., and Oxford 2d., *are not of the Princess tribe.* She was by Matchem, (no Princess blood in him,) and was bred by Mr. Brown, dam by Young Wynyard (a Princess bull). The cow by Young Wynyard was bred by Mr. Francis Smith, of Claxton, Durham, and by him sold to Mr. Brown. Mr. Brown sold Matchem cow to Mr. Bates. Here the pedigree ends, and *it is known* that the cattle back, had no connection with the Princess tribe, in *any way.*

In the Herd Book, vol. iii., published in 1836, Matchem bull is said to be by St. Albans, (a Princess bull,) or by Bonnyface (not a Princess bull). This was published *after* the death of Mr. Mason, who bred him. In Mr. Mason's catalogue of his sale in 1829, Matchem is stated to be by Bonnyface, dam by Farmer, &c. Is not Mr. Mason the breeder of Matchem to be believed before others?

It will thus be seen that Matchem cow was not of the Princess tribe, and the only pretention she had to any of that blood was through the cross of Young Wynyard in her grandam.

Dr. Martin says, "even Mr. Bates' stock owes a part of their excellence to other blood besides the Duchess, Princess and Red-Rose tribes." This is true so far as the use of Daisy bull, (186,) is concerned, but not as relates to Bertram and Gambier. Daisy bull was of great service to the Duchess tribe. In his Duchess, Red-Rose, Waterloo, Wildeyes, Foggathorpe and Oxford tribes, (all the tribes he has,) the blood of Bertram exists in none of them except Oxford 4th, and her two calves; and Gambier's blood in none. Mr. Bates never did use, and he told me he never would use, a bull out of, or descended from Oxford premium cow, and that, on account of Bertram's blood. Mr. Bates always sold anything out of Oxford *premium cow*, at very low prices for him, whenever he had an offer. The facts in Mr. Bates' breeding are his, not mine, and I have nothing to do with them but to state them. From many of Mr. Bates' opinions, both as expressed in words and as shown in practice, I dissent. Dr. Martin and myself are here alike, and in this point we fully agree.

It will be observed that, I have, in this article, done nothing but state facts. I have expressed no opinion. For the *truth* of the facts I hold myself responsible, and will prove them if they be questioned; for the consequences of the facts I am not responsible.

Dr. Martin is a most agreeable opponent; he states one's position kindly and candidly, and his own with fairness; and in those cases where his interest is identified with his views, his judgment is not so warped as to make him blind nor disingenuous. His article opens a wide field of discussion; hereafter I will consider it.

A. STEVENS.

MANURE FOR TURNIPS.—A gentleman who has often tried it, informs us that, according to his belief, cotton seed is the best manure in the world for turnips. He drops it in drills, and covers it three or four inches deep, and plants the seed on top of this covering. He believes it prevents the depredation of the turnip fly. Perhaps this is owing to the vigor of growth given to the young plants.

TREATMENT OF MALE BREEDERS.

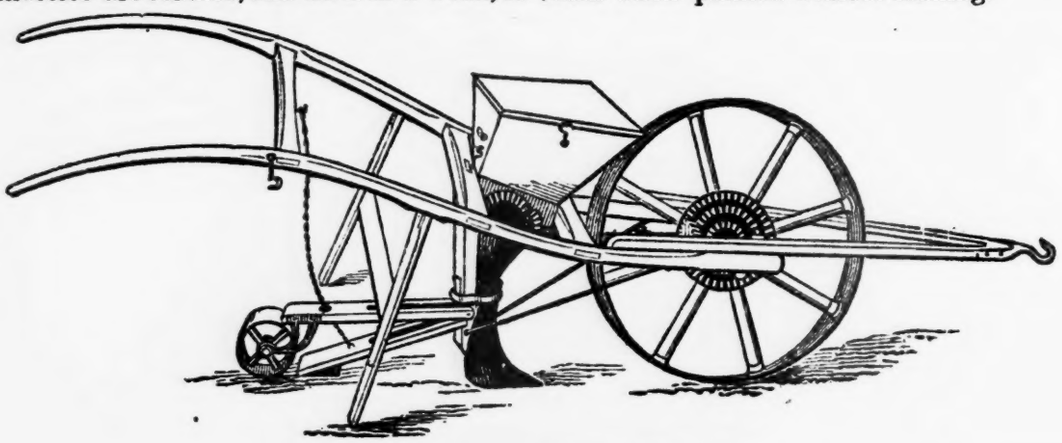
It is generally customary to keep stallions and bulls confined in the stable, in rather low condition till the close of the winter or spring, and then commence feeding them high, preparatory for the season, still holding them in greater or less confinement. Such a course is entirely wrong. In a state of nature, the males wander at will, enjoying the benefit of fresh air, and take due exercise. Hence the general superiority of wild over domestic animals. The former never degenerate in a state of nature, but the latter do, unless great pains are taken in properly breeding them. The wild horse, the ass, the ox, the buffalo, and the deer, of the present day, are undoubtedly just as perfect as they were thousands of years ago.

As they cannot be properly controlled, it does not answer to let stallions and bulls run at large, in the pasture with females; and as exercise and fresh air are absolutely essential to their good health and vigor, the best way to obtain these, and keep them in good condition is, to break the former, when quite young, to the harness as well as the saddle, and the latter, to the yoke, and work them regularly, but moderately.

A male, kept fat and in close confinement, his muscles are relaxed, and he is in a weak, feverish state. Now, like produces like, and the result is, that while in this condition, it is impossible for him to get so vigorous and hardy a stock as he would, if moderately fed and properly worked or exercised. But when worked, great care should be taken that he is not put to cover when in the least exhausted. Excessive service, or over work, must be guarded against, equally with idleness and too high feed, as both are decidedly objectionable.

Soaking Corn in Saltpetre.—I have never yet heard of corn soaked in saltpetre causing an explosion, after being taken into the crop of Mr. Crow; but I do know that this Crow family do not relish corn soaked in it. I have tried the plan of feeding crows by strewing corn, not soaked, on the ground, and they soon called together the whole family, even to thirty-third cousins, for a regular feast, and soon ate up the whole given them, after which they pulled up half a field of 20 acres besides, as *dessert*, not leaving even the third planting.

I have soaked corn in saltpetre for several years. It gives the young plant a healthy appearance and vigorous growth in the start, causing it to mature almost two weeks earlier than when planted without soaking. B.



Improved Seed Sower.—Fig. 47.

Improved Seed Sower.—This machine, with all its essential parts, has been fully tested in this country and in Europe, and is found to plant all the variously-formed seeds in drills, rapidly and with precision.

The operator moves forward as with a wheelbarrow, when the drill is opened, and the seed is deposited, covered, and the soil is compressed at a single operation. An acre, with rows two feet apart, is easily sown in three hours. Directions for using accompany each machine.

COMPOSITION OF SPRATS.

These fish abound in the waters surrounding Great Britain. Professor Way found a slight variation in the component parts of these fish, according to the different seasons of analysing them, they being fatter at one period than another, thus yielding a larger portion of oil. He found them to contain 63.65 water, 18.6 oil, and 17.75 dry, nitrogenous matter, in 100 parts. The dry matter, after separating the oil, gave 11.53 per cent. of nitrogen, or nearly 2 per cent., (1.94 precisely,) in their natural condition.

The mineral matter obtained by burning the fish, was 2.11 per cent., and of this, about 42 per cent. was phosphoric acid, 25 per cent. lime, 3.22 magnesia, 19.5 potash, soda and chloride of potassium 1.75, chloride of potassium, 6.75. Many of these constituents are reported as varying materially.

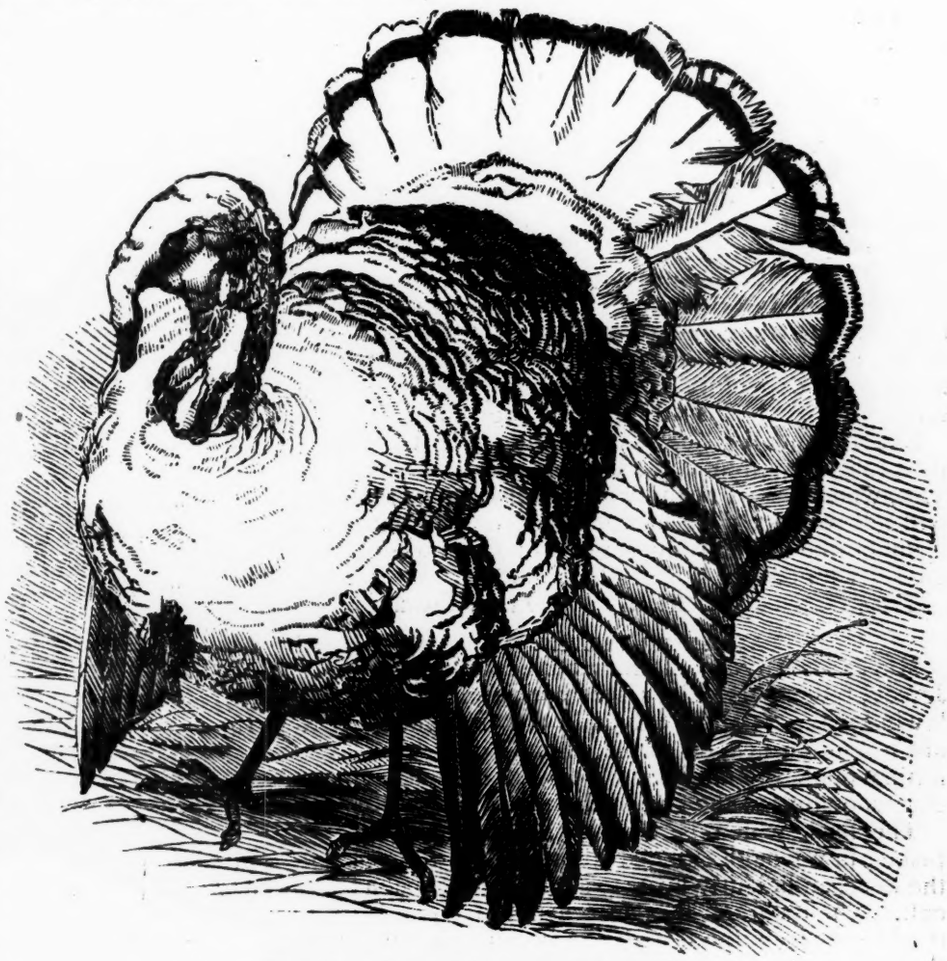
These fish may be considered a fair type of those abounding on our coasts at certain seasons of the year. They are sometimes found in such places, or in such profusion, as to prevent their consumption as manure. We suggest that when this is the case, and peat, or rich vegetable mold can be procured, that they be at once mixed with it, in successive layers, throwing a thick coating of the vegetable matter over the whole. The entire mass will soon be converted into a valuable manure, which, at a favorable season for transportation, could not fail to command a remunerating price among the farmers.

THE TURKEY.

THE domestic turkey can scarcely be said to be divided, like the common fowl, into distinct breeds; although there is considerable variation in color, as well as in size, but no Bantam, or dwarf race, exists, unless we except the small, delicate-fleshed turkeys of Hempstead Plains, near New York, which often weigh, when dressed, not more than 4 or 5 lbs. The finest and strongest birds are those of a bronzed black, resembling, as closely as possible, the original stock. These are not only reared the most easily, but are generally the largest, and fatten the most rapidly. Some turkeys are of a coppery tint, some of a delicate fawn-color, while others are parti-colored, grey, and white, and some few of a pure snow-white. All of the latter are regarded as inferior to the black, their color indicating something like degeneracy of constitution, if not actual disease. A variety is said to exist in the aviary of Madam Backer, at the Hague, with a topknot springing from the crown of the head, resembling that of the plumed Poland fowls.

Incubation.—The turkey hen is a steady sitter, and in this respect resembles the wild bird—nothing will induce her to leave the nest; indeed, she often requires to be removed to her food, so overpowering is her instinctive affection; she must be well supplied with water within her reach; should she lay any eggs after she has commenced incubation, these should be removed—it is proper, therefore, to mark those which were given to her to sit upon. The hen should on no account be rashly disturbed; no one except the person to whom she is accustomed, and from whom she receives her food, should be allowed to go near her, and the eggs, unless circumstances imperatively require it, should not be meddled with.

On or about the thirty-first day, the chicks leave the eggs. Now, in a state of nature, the wild hen always manages far better than she would do if interfered with by man, were his interference possible, and so we believe with the domestic turkey hen, if her nest be placed (and it might in a certain degree,) as it is in nature; this we know, that turkeys which have laid their eggs in out-of-the-way places, and have been allowed to incubate there, have brought their troop of downy younglings into the farmyard with evident pleasure and satisfaction—no extra attention having been paid to them. It is usual, however, in Europe and the northern parts of the United States, to remove the young chicks, one by one, as they make their exit, and place them in a basket of warm flannel, tow, or feathers, until all are out, and then restore them to the hen; this is done as a precautionary measure, lest any accident should happen to them.



THE DOMESTIC TURKEY.—FIG. 48.

In a state of nature, the turkey only rears one brood during the season, unless her eggs have been destroyed or removed, nor will the domestic hen incubate twice, if allowed to rear her own brood; some, however, which like, as the common phrase is, "to work a free horse to death," recommend that the turkey be induced to hatch a second time in the season. This is effected by taking her young brood from her as soon as possible, and mixing it with another brood of the same age, as nearly as may be; her cares being no longer required for her young, and her instincts unsatisfied; she seeks the company of the male, and in about three

weeks, commences laying until the number of eggs is complete, when she re-engages in the task of incubation. But I object to this practice *in toto*. It is cruel and it taxes the system; she has already sat patiently for thirty days, that is four weeks and two days, and surely that is quite enough. Besides, the brood thus hatched will be late in the season, and late broods of turkeys cannot be reared without very great care; they cannot stand the chilly mornings of autumn nor the frosty nights; their limbs become swollen and rheumatic, and they die one after another, few surviving, and these few never become fine, healthy bird from which the breeder would select his stock. Let nature alone. Should a hen lay after hatching her clutch of eggs, and should she, (which is very unlikely,) indicate a desire for incubation, it is better to prevent her, and use the eggs for household purposes.—*American Poultry Yard.*

THICK AND THIN SEEDING.

Your correspondent, Nugator, at p. 60, of the February number, has given a statement of his experiments of thick and thin sowing, which have produced entirely different results from similar experiments tried by myself. After testing the matter thoroughly, I am convinced, that, on land like mine, (clay loam,) in this climate, grain, at least, requires to be sown according to the capability of the soil to produce a crop. If it is good, seed thick; if poor, thin.

Experiments tried by me have shown that on land that will produce 50 bushels of wheat per acre, when seeded with two bushels per acre, will not produce over 40 when seeded with one bushel; and in about the same proportion when seeded with 5, 6, or 7 pecks to the acre.

Troy, Oakland Co., Mich. Linus Cone.

FATTENING CALVES.

Mr. Jacob Taylor, of Monmouth county, New Jersey, fattens his calves for market in the following manner:—The calves, in the first place, are put into a pen, or stable, lighted only by a lattice door, the number of calves, of course, corresponding to the size of the pen.

The feed, which is usually Indian meal, is placed in a trough situated about 2 feet above the floor, sufficiently large to accommodate each calf. The older ones soon learn the younger ones to eat from the trough. Adjoining the pen, there is a yard for the cows, into which the calves are turned whenever it is necessary for them to suck.

The older calves are taken to market as soon as they are ready, and their places filled by young ones, thus keeping up a constant supply of delicious veal during the season. A. S.

EXPERIMENTS WITH ROOT CROPS.

At page 192, vol. viii., of the Agriculturist, you requested some one to try an experiment with roots, on a green sward. In accordance with that request, last year, I sowed a small piece of ground with carrots, and although the experiment was only partially successful, I considered it as one of the most profitable crops, as feed for store cattle, of the season.

The land had been pastured for five years previous to plowing, and cattle and sheep had sometimes been yarded upon it. At the time of sowing, it received not much manure, as that had mostly been applied to other crops, and the little that was applied was harrowed in. I sowed one third of an acre with orange carrots in drills, 20 inches apart. The seed had not heen soaked and was a long time in coming up; and at harvest time, the drills were not more than two thirds filled with the roots. The crop was fed to horses and store pigs. The expense and profit were as follows:—

EXPENSE OF CULTIVATION.

May 18, 1849.	To fit ¼ of an acre,		$1.00
" 22, "	Sowing with drill and seed,		0.75
June 12, "	1 bushel plaster, and applying,		0.38
" 22, "	2 days' weeding, first time,		1.25
July 3, "	3½ days' do., 2d time,		2.17
Aug. "	1 day's weeding,		1.00
Nov. 7, "	7 days' dragging,		3.06
Whole expense, including board,			$10.07
	Cr.		
By 150 bushels carrots, estimated at			$18.75

I also tried another experiment with ruta bagas, the expense and profit of which were as follows:—

EXPENSE OF CULTIVATION.

May 22, 1849.	To fitting 1 acre joining the carrots,		$3.00
" "	Carting 12 loads manure,		1.00
" "	Plaster 2 bushels, and applying the same,		0.62
June 9, "	To drilling in seed and seed,		1.25
" 22, "	To weeding, first time, 2 days,		1.25
July 9, "	2½ days' weeding,		1.88
Nov. 13 "	7½ days' digging and securing,		3.00
Whole expense including board,			$12.00
	Cr.		
By 420 bushels ruta bagas, estimated worth 6¼. cts. per bushel, for feed,			$26.25

In the first place, I sowed too little seed, and in the next, the flies made sad havoc with the plants, and the weather being so dry that those transplanted did not live. The later sowed produced roots of a better quality than the earlier, and they were nearly as large, yet the yield per acre was much less, as a greater proportion of the crop was destroyed.

I fed the greater part of them to store cattle, and I find that one bushel per day, with the addition of good oat straw, will keep an ox in good condition when he is not at work.

Stephen R. Gray.

Salem, N. Y., March, 1850.

Milking Cows.—Let care be taken that your cows are milked clean; the last milk is much the best. Cows are often spoiled by lazy, careless milkers.

FARM FENCES

Among all the difficulties attending the cultivation of land in the United States, nothing is more constant in taxing our ingenuity and purses than the construction and repair of our fences. It is only in the hardest and most rugged soils, and where cultivation is also the most expensive, and of consequence the least remunerating, that stone, the most indestructible of all fencing materials, is found in quantity and kind, which will admit of its use in point of economy. Yet the manner in which it is thus used, although costly at first, being from $1 to $3 a rod, serves the double purpose of clearing the land of a heavy incumbrance, and working that incumbrance into a durable enclosure; and such mode of disposing of it is perhaps the best under all circumstances.

The use of stone fences, therefore, can be only locally applied, and in the aggregate to only a fraction of the country; the best and most extensive agricultural regions being without *surface* stones to any extent, they require other than timber, a material which will be efficient, durable, and *cheap*.

I might with great propriety, at this junction of my discussion, go into a very proper homily upon the quite unnecessary, and, to landholders, expensive incumbrance to which they submit, and for all I can say, will continue to submit, to wit: that of tolerating in the communities and neighborhoods over whose local regulations they have the entire control, the running at large of farm stock of every description, and more particularly those pests of every farmer, either good or bad, when thus let loose—hogs and geese. And why it is that they do thus submit to it, not even themselves can tell; but they do submit to it; and so long as they are therewith content, why, upon them be the penalty; and that penalty is a double tax upon themselves, to an amount which would be astonishing and pronounced unendurable were it imposed upon them by any power outside their own premises; but as they never give themselves the trouble to think of it, or cast it up, they seem to be quite content under its operation—therefore let them sleep in their blissful enjoyment. I will only say that a tax infinitely less exacting than this imposed by the mother country, burst out into the American Revolution, and separated the American colonies from Great Britain.

Assuming, as is the fact, that stone for fences in the greater part of our country is out of the question, what is the material for constructing them to the best advantage? I know of but four methods, and they are as follows:—

1. Earth thrown into a mound on one side, which is excavated from a ditch on the other, and thrown into a regular embankment.
2. Hedges, with or without a ditch on their sides.
3. Wood of various construction.
4. Iron wire.

These, I believe, constitute all the ordinary materials at command for fencing purposes, and I propose to examine them briefly.

1. In the deep soils of our prairie country, earth or sod fence has been used to some extent; but the friable nature of the soil thus used, acted upon by the frosts of winter, and the continual goring and treading of cattle in their efforts to overleap it, makes this an inefficient and expensive structure. Although resorted to as a desperate effort to secure their fields by the farmers in the early settlements of the prairies, these sod fences have been abandoned as fast as other materials could be substituted

2. For partly the same reasons, hedges have not succeeded. And with the charecteristic impatience of us Americans to wait for anything, except our *children*, to come to maturity, (and man fast getting too impatient for that, by striving to make men and women of them before they fairly get into boy and girlhood,) not one man in ten will plant a hedge for fear he may want to sell his farm and "move west" before it is grown, and thus lose the cost of it; or if he does not move, that he may want to change the lines of his fields or his farm, and thus his hedge become useless. Besides this, our climate is too extreme in its changes from heat to frost, and too dry in summer for the proper growth of hedges, as in England; and they are also expensive to grow and mature, expensive and troublesome to keep in repair, occupy a large space of ground, and, perhaps more than all, serve as harbors to innumerable vermin to destroy and prey upon our crops. At all events, for more than a century past they have been thoroughly tried in different sections of our country, and volumes have been written upon them, and yet twenty miles of "good and sufficient" hedge can hardly be found in the United States. I consider, therefore, that the adoption of hedges for farming, to any great extent, is out of the question.

3. Wooden fences are the universal enclosures of our farms, excepting those parts where surface stones are an absolute incumbrance, and in the cost of construction and repair of these, we pay a tax that not one farmer in five hundred ever thinks of, and which, if he does think, he dares not calculate.

Wooden fences are of several kinds, some of which I will enumerate. The first, the cheapest, and the best for a farmer commencing his farm in a *wooden* country, is the zig-zag rail fence, called in several states "Virginia fence," made of rails ten to twelve feet long and averaging four to six inches in diameter. This kind of fence costs in construction only, including the cutting, splitting, hauling, and laying it up, when the rails are within half a mile of the fence to be railed, at the very least $15 per thousand, or for a twelve-foot rail with a five-foot worm, (and six is better,) seven to eight rails high with two rails for lock at each corner—30 cents a rod. Then it takes the very best and most durable kinds of young timber, which must be added to the cost, and this depending entirely upon its market value where the fence is located.

The second and next cheapest kind is post and rail, which, at the cheapest, can be built for

fifty to seventy-five cents a rod, the cost of timber to be added.

The third—and that is as high as a *farmer* can afford to go—is a post and board fence, say oak, locust, chestnut, and red beech, in cedar posts; and pine, chestnut, or hemlock boards, which will, at the very lowest—and poor at that—cost him a dollar a rod, and if well built, $1.25 to $1.50. These fences will last, on an average, probably twenty years—possibly more—but they will require relaying at the end of that time, and more or less repairs annually, after they have stood five years.

These three modes of fencing will gradually become more expensive than now, as our country becomes cleared up, and the value of timber increases; and already a substitute in many extensive sections of country is required.

Now, what is this substitute to be? In my opinion, iron, when all its qualities are taken into account, is to form our most available material. Its cost of manufacture is gradually decreasing in this country, and but a few years will probably pass before we shall make it as cheap here as in England. It is now produced for about half the cost that it was twenty years ago; and even at present prices, our most economical fences, to those who have to buy all the material and pay for the labor, may be of iron.

Within the past year, several practical articles have appeared in the agricultural papers on the subject of wire fences, the most of which, as yet, display on the part of the writers but a theoretical knowledge. Some, indeed, a little practical, but all indicating a wish for information, and giving to the public on their own part their best views on the subject. To these, followed out with my own impressions, I shall give some attention in your next number.

Black Rock, N. Y., March, 1850. LEWIS F. ALLEN.

CURIOUS CIRCUMSTANCE IN BREEDING FOWLS.

IN an article by T. B. Miner, in the March number of the Agriculturist, at p. 75, he observes that in order to breed Poland fowls "in pure blood, they must have a yard by themselves, and not even allowed to *see* other fowls! It is, indeed, a fact, that the mere act of witnessing other fowls in adjoining enclosures, will destroy the purity of the breed." It is a fact—I confined three white Bantams with some Poland fowls. I was very careful not to sit any of the Bantam's eggs, as it was very easy to distinguish them by their size; yet the result was, I had a very different fowl, in plumage, at least, from the Polands. [Was it not sufficient to produce a cross or mongrel breed, to confine Polands and Bantams together previous to their laying, notwithstanding the larger size of the eggs of the Polands?—EDS.]

My experience with Poland fowls abundantly corroborates all that Mr. Miner has written on the subject. Therefore, I shall look with much interest for something more from his prolific pen. AZEL DOWNES.

Bating Hollow, L. I., March, 1850.

RAILWAY OR ENDLESS-CHAIN HORSE POWER—THRESHING, SAWING AND CUTTING MACHINES, &c., &c.

HAVING used one of the above horse powers for two seasons past, for threshing my grain, sawing fire wood, cutting corn stalks, hay, and straw, and for various other purposes; and having *fairly* and *thoroughly* tested its efficiency, as a convenient and cheap portable horse power; and having been completely divested of my inveterate prejudices against such powers, as being *horse killers*, and *a source of more vexation and expense, than of profit*, I propose to contrast the *expenses, advantages*, &c., in performing a certain piece of work with *Allen's* power, with those of the ordinary *sweep* power.

And here, let me say, that this is just the kind of power which farmers need. It is *multum in parvo*. It occupies but little space, and is constructed on such principles, that a great share of the strength of the horse, which is expended in overcoming the friction of *other* kinds of power, is applied in this power, almost directly where it is most needed.

When I assert that threshing grain with the 6 and 8-horse powers, owned by jobbers, who itinerate through the country in quest of employment, is attended with exorbitant expenses, with a great waste of straw and grain; and as a general thing, with great inconvenience on the part of farmers, I speak what three fourths of the grain growers would say, were they interrogated on this subject.

If a farmer has 300 bushels of wheat to thresh, (which is usually about a day's work for a large machine,) his expenses, in this region, would be $4 per hand, a dollar a-day for about 7 or 8 extra hands, and a dollar per day for one or two pair of horses; and to these sums, add the board of hands, and grain for horses, and we have an amount equal to about *one tenth of the crop*; and besides, it is too frequently the case, that both hands and team ought to be employed in prosecuting the labor on the farm, which demands immediate attention. There is also another important consideration. It is too often the case, that seeds of noxious plants are carried about from not having been thoroughly cleaned, before removing; and it is a very common occurrence, after a machine has been threshing wheat, which contains much pigeon weed, or red root, for this foul seed to find its way into choice wheat fields, where it had not before existed.

A neighbor of mine, who exercises much vigilance over his grain-growing fields, told me that when he employed one of these large machines, it brought to his barn *more than a pint of wild mustard seed*—enough to keep one weeding for seven years, had it found a receptacle in the grain field. I never discovered any pigeon weed on my farm, until after I had employed itinerant threshers, with self-cleaners, to do my threshing; and I believe that if each farmer had done his threshing with a machine of *his own*, so much of the best wheat land, in Central New York, would not have been overrun with pestiferous weeds. There are thousands of acres of the most valuable wheat land in this, and in

adjoining counties, which produce, with each wheat harvest, an abundant crop of *pigeon weed*, *Ackley's clover*, or a variety of the May weed, owing to these itinerant threshers. If a farmer is so unfortunate as to have much foul seed of any kind among his grain, by threshing it, at a season when it is most convenient, if he threshes with such a machine as *Allen's*, very little, if any, of the foul seed will be carried off with the chaff and straw, and find its way into the manure, as is the case when grain is threshed with self-cleaners. But, if the foul seed is all retained with the grain, it is an easy matter to separate one from the other, and thereby prevent its being returned to the field with the manure.

There are but few farmers, who cannot thresh all of their grain on their rainy and leisure days, and incur very little expense, if they had a machine of their own. Since I have owned one of Allen's powers, it has not cost me one bushel in twenty to thresh my grain. With two light horses, by changing them every hour, and with two men and a boy, I threshed forty-five bushels of wheat in half a day.

And here, permit me to speak of another advantage and source of profit, by threshing with such a machine. We may thresh about a half a day, and use the straw to a much better advantage, than when it is all threshed at once; for, when it has but just been threshed, cattle and sheep will eat a great deal of it; and besides all this, managing in the way proposed, the sheds and stalls of stock are more likely to be littered with dry straw, which I ever consider a great addition to their thrift and comfort, during the cold and stormy days of winter. During the cold winter months, most farmers find little to do, to a good advantage; and, in my opinion, they can work at nothing more *profitable*, than threshing their grain and taking care of their stock, &c. After I have threshed a part of a day, the straw is passed through a corn-stalk cutter, which is driven by horse power, with which I cut all of my corn stalks and hay; then the hay, corn stalks, and straw are wet with water, and a little corn or oat meal applied, and cattle eat it with as much avidity as one would eat the best New-Jersey *slap-jacks*.

There is another advantage in having such a horse power and threshing machine. Many farmers, like myself, wish to thresh their seed wheat, in the fall, but do not want their whole crop threshed so early in the season; but if they are obliged to depend upon an itinerant thresher, they are too often sadly disappointed in the consummation of their plans, with regard to early seeding. But with one of this small kind of machines, three or four hands, during a part of a rainy day, could thresh all the seed wheat that an ordinary farmer would be likely to sow, in one season. I have known instances where farmers have been hindered in their seeding, more than *two weeks*, when their ground was ready for the reception of the seed, simply because they could not get a machine to thresh it. And, furthermore, it is frequently the case, that time enough is consumed, in going after, and removing a machine, to do up the necessary threshing for the time, if one had a machine of his own.

Another advantage of this kind of horse powers, over the sweep power is, *one* man can use it for cutting hay, &c.; whereas, the horses, on a sweep power, would require a driver.

In order to give an idea of what one man can do with this kind of power, which he could not do with a sweep power, (because he would need a driver,) permit me to state briefly, what I perform with mine. I have about thirty-five acres of tillable land; and I use one of Allen's horse powers, to do my threshing. I use it to turn the fanning mill, instead of a hired man, when I clean grain. Instead of a man to turn the grind stone, I let a horse do it. With it I drive my turning lathe; and I design to use it for grinding grain. I also drive a saw which cuts all my fire wood. The past season, I have been erecting a new dwelling house, and with a small buzz saw, placed on the shaft of my fire-wood cutter, with one horse, I, alone, can slit out more lumber for cornices, window frames, door frames, and whatever needed slitting about the house, *than eight men with hand saws*, and with a great deal more accuracy. There are many other purposes where one man can manage this kind of horse power, where it would not be at all feasible for him to use a sweep power. It has been the means of saving me many dollars, which I should have been obliged to pay for the performance of manual labor; and it has enabled me to make use of *every small piece* of plank or board in the most economical manner. Pieces of plank were readily cut into thin strips for blinds; and pieces of boards, into laths, so that everything was worked up. I use it for driving a buzz saw, for cutting the tenons on pannel doors; and one can cut more tenons in eight or ten minutes, with it, than a joiner could in an hour, with a hand saw. The tenons on a four or six-pannel door, a joiner would probably make in an hour and a half; but with such a machine as mine, he would be able to do it in five or six minutes. It is true, indeed, that all this may be accomplished with a sweep power; but it could not, ordinarily, be done merely with *one horse and one man*. Were I to erect another dwelling house, I would not be destitute of the aid of such a machine, for half its value.

In conclusion, let me assure my brother farmers, that I have written what I do know, and testified what I have seen, and what I have performed with my machine—another, with a machine similar, cannot fail to do. If you will procure one of this kind of horse powers, for threshing your grain, cutting your straw, corn stalks, hay, my word for it, it will pay for itself. By cutting my fodder, for two years past, I have saved, at the lowest estimate, two tons of hay per year, which would be equal to twenty-eight dollars; whereas, when I practised feeding whole or uncut fodder, I was, nearly every season, under the necessity of purchasing hay, in order to sustain the same amount of stock, which I now keep.

S. EDWARDS TODD.

Lake Ridge, Tompkins Co., N. Y.

REVIEW OF THE MARCH NUMBER OF THE AGRICULTURIST.

The first thing to be noticed, is the value of this number. It is one of the best ever issued, and is worth to any subscriber, the dollar that he paid for the whole year. I now proceed to call attention to some of the most valuable articles it contains. One of the objects of these reviews is, to refresh the minds of readers who may have passed over the matter carelessly. So much by way of explanation to *new* subscribers. I fancy *old* ones know me by this time, or rather, know my object.

Naked Fallows and Naked Soils Tend to Sterility.—This sentence ought to be adopted as a standing motto of every agricultural society in the country. Every country school house should have it printed upon the wall, with the addition that *shade always improves land.* Even a stone or block of wood always makes a rich spot where it lies. Why is the ground where a building has stood, or even a common rail fence, always rich? It is because it has been shaded. One of the most ruinous systems of cultivation ever pursued, is that of "resting land." Does forest land ever rest? There is just as much need that it should, as to rest corn land. I believe that the land is more exhausted by the burning sun after corn ripens, than by the crop grown upon it. Hence the importance of covering the ground with something that will make shade, after the grain is harvested. I differ from the writer of this valuable article, in one point. I very much doubt the policy of keeping cattle upon a grain farm to eat off the crops and scatter their "droppings." I have a very shrewd, queer sort of a neighbor, that raises more corn, wheat, oats, and rye, than any of us, who says there are four or five great curses that he constantly prays to be safely delivered from. These are "rum, politics, hounds, hogs, and horned cattle." With the two latter, are included the curse of fencing against your neighbors' stock, when you do not keep any yourself; with the first, the curse of neighborhood quarrels, about the "unruly animals; and with the second, the curse of sending such men to make laws, as will not do away with the odious fence law, for fear of losing popularity among that class whose stock are always pirating upon their neighbors; with the third, the curse that prevents the growth of millions of pounds of wool, because the dogs kill the sheep.

Poultry Raising.—Although my wife is one of the most amiable of women, she feels almost like coming to the *scratch* with the writer of this article; for she thinks her favorite breed of fowls, the Polands, are sadly calumniated. Take a little more care, sir, of your *cackling* hereafter, or some one will come down upon you yet, like a hen defending her chickens.

The physiological fact mentioned, that the *sight* of other fowls will destroy the purity of the blood, although it may be new to some, is not to me. I think I have read in my Bible about the same kind of cause, producing a similar effect, by that greatest of all cattle breeders, the shrewd and calculating Jacob. It is a fact, not properly understood, that sight has much to do with giving color to many domestic animals. [What proof is there of its changing the breed of fowls?—Eds.]

Table for Planting Corn, Trees, &c.—Worth ten times the cost of the whole number.

Grand Vegetable Banquet to the Potato, &c.—This is one of those peculiar scintillations of *Punch*, which not only amuse, but instruct. One of the kind and style of articles that ought to enliven the pages of every number of the Agriculturist. Because it is the natural disposition of all mankind, to be amused rather than instructed. And he that can combine the two, possesses a happy faculty of doing good. Man is a "laughing animal," and must and will laugh.

Training Cattle and Horses.—"First, procure animals of a good breed, naturally intelligent." Yes, and next, before you undertake to learn them, procure another set of animals naturally intelligent, to train the dumb brutes. Or else all the training in the world may be given, and they will still be as big fools as their masters.

To Cure the Scours in Cattle, and Wounds in Horses, are two valuable recipes that should be preserved for future use. Look to it, and thereby, perhaps, save a horse or cow.

New Mode of Raising Wheat.—It strikes me that this idea of sowing oats with the wheat is one peculiarly well adapted to a country where wheat is liable to winter-kill, in consequence of scarcity of snow, as I think I have heard was the case in Iowa and Northern Illinois, to a greater extent than any other part of the United States. Besides the protection to wheat, if the land is rich and well prepared, the growth of oats will be so great as to add considerable to the fertility of the land. I would recommend an early sowing, to give the oats a chance to get a good growth before frost. The plan will not do at the south, where the winter is not hard enough to kill the oats.

Cows not Giving Down Their Milk.—Easily enough explained. They are not half so big fools as you imagine. And they have perfect control over the flow, not the secretion of milk, and may be educated to almost any process of milking. In some parts of the west, (I have seen it in Ohio,) cows are never milked except by a female, with one hand, while the calf is almost always sucking. Do you think you could sit down, Yankee fashion, and milk such a cow with both hands, into the pail? I should like to see you try it. There are two reasons why cows hold up their milk. One is a nervous affection which requires a few minutes of gentle handling of the teats, to enable them to overcome it. But in nine times out of ten, it is the effect of bad training. Cows which are properly milked, will give more milk than those that are milked by dribblers. The quality and quantity of milk of cows, is in a considerable degree within the control of man. Proper food and good milkers will improve both. Train up a heifer in the way she should milk, and when she is old, she will not depart from it. If any of your physiological correspondents can give

more "scientific reasons" than these, I should like to read them.

Tower's Improved Grain Dryer.—As to this article, it looks as though it would do; though I fear it works too slow, and perhaps takes too much fuel. Is it any better, or so good as a steam dryer? One of the advantages stated in favor of kiln-dried corn is controvertible. That is, that the meal is sweeter. Now, everbody who knows enough to tell a pot of mush from a meeting house, knows that the greener the corn, the sweeter the meal. That it will keep better, if dried, is indisputable. Corn meal, though, to be good, must never be ground long before it is used, and never be ground fine. Remember that.

Pumpkins for Milch Cows.—What! Are our ancient thanksgiving privileges to be encroached upon? Do you seriously recommend us to give the cows our great, rich, yellow pumpkins? Forbid it! Both *mo*-lasses and *lasses*, of Yankee birth, and "broughten-up!" And further, are all our time-honored customs of pumpkins in the corn field, to give place to this new-fangled notion of book farming? And shall we see our best land planted with pumpkins alone? What if the crop should be more profitable? What if the corn should be better alone, and the pumpkins alone? Do you think they would stand it? No sir. You would soon see them creeping through the fence, and claiming protection of their old friends, the corn stalks, saying, as plain as pumpkin vines could say, "What has been so long joined together, let no man put asunder." Be a little careful, Messrs. Editors, how you recommend innovations upon our time-honored customs. Why, the next thing that I shall expect to see, will be a recommendation to plant our white beans in a field by themselves, and not stick them in among the corn hills. We honor the memory of our fathers too much to make any changes in our modes of farming, sir.

Iron Railing, Grating, &c.—"Woodman spare that tree!" need not be sung any longer. Down with it. We have no use for wood any more. Iron houses, iron ships, iron fences, iron furniture, and stone fuel, and the latter about to be thrown into the shade; that is, if there are any trees left by that time, by burning water. And you may even kill the old grey goose, for we write with iron pens now, or gold ones; and even if it is the goose that lays the golden egg, off with her head; for since the discovery of California gold mines, nobody can wait periodically, for a goose to lay. This is the age of gold and iron.

Building and Building Materials.—The author of this article is in love with stone houses. I do not exactly believe in the transmigration of souls; but I do most firmly believe in the influence exerted over men's souls by surrounding circumstances, and that men are, more or less, like the houses they live in. That is, if a family has lived for several generations, in a gloomy, cold-looking, prison-like, old, stone house, they partake of the character of the dwelling they live in. This is one objection I have to stone houses. Next, I doubt their economy. I believe it will be conceded that a substantial stone house, even in a stony country, will cost double that of a wooden one. But I will take the cost of the stone one at $3,000, and the wooden one at $2,000, for the sake of the argument, and give the stone one all the advantage it is entitled to. Now, here are two farmers, one is living in a stone house, at an annual rent, (interest at ten per cent.,) of $300, and the other one in a wooden house, at $200 a-year. Now, I contend, that any improving farmer can make his money worth ten per cent. to him, and that five per cent. will keep his house in repair forever; so that I care not how long the stone one lasts, the man in the wooden one will always have a house more comfortable, more healthy, and certainly more cheerful, and in every way more pleasant, upon an average, through all seasons of wet and dry, cold and hot, than in the stone one. Talk not to me of stone, either in hearts or houses. Give me the light, airy, cheerful dwellings of America, in preference to those gloomy old things of Europe and Asia. I have been chilled through in them a little too often for my comfort, or any agreeable, and especially romantic notions connected with them. I sometimes think a child will partake of the character of the house as well as the country in which it is born. No country on earth has so many comfortable and beautiful residences for the mass of the people, as ours; and no country has so much beauty of face and intellect, among the same masses, as this. Look at our lovely, light-hearted country girls, born in wooden houses, and talk not to me of stone ones—cold, gloomy, heart-hardening stone houses.

[We do not agree with our friend Reviewer, altogether in his eulogium of our countrymen and countrywomen. We will grant that the great mass are better educated, and are more intelligent, and *smarter*, (to use an expressive Yankecism,) than Europeans; but we have not equalled them yet, at least in some departments. Where is our Shakspear, Milton, Byron, Göethe, Schiller, Dante, Camoens, Bacon, Newton, La-Place, &c.? In point of fine, rosy complexion, good constitution, and *enduring beauty*, our women but poorly compare with those of Great Britain, and other portions of Europe. Nor have we yet produced a De Stael, De Genlis, Sevigné, Moore, Hemans, Opie, Edgeworth, Montague, and a host of others that might be named.—Eds.]

As to brick houses upon the farm, the very sight of them, in a hot day, is enough to drive a man mad. They are only fit for bake ovens, and never will be used for dwellings by a man that is "half baked." Unburnt bricks are only fit for such a country, and such a people, as Mexico. There is nothing to recommend them in this latitude. As for roofing, I agree with the writer, that we are none the wiser for our folly of using poor pine shingles, fastened on with cast-iron nails.

Agricultural Geology, No. 1.—Strange how much good sense, and valuable practical information can be put into so small an article. I am glad we are to have more of it from the same source. I cannot comment upon it, and

point out its value, because I have so many other thing to notice. But I pray you, reader, look it over again. Do not say you don't understand anything about geology. The Doctor will make you understand it. You cannot help it.

Construction of Cattle Yards.—Another very sensible article. Speaking of hauling manure, reminds me that whenever it costs anything near a dollar a load to get manure from abroad, I have proved by actual experiment, that the same amount laid out in guano, will give me a better return. But, after all, as this writer says, the best economy is to save and make manure at home.

Galls on Horses, "may be cured by white lead." That is true. I have always found that ground in oil the best. Try it.

Treatment of Mowing Lands.—A better article than this, and one of more value to the reader, never has been published in this or any other agricultural paper. The direction about harrowing old meadows, coming from so practical a man, I look upon as of great value to the new beginner, or even to the old farmer who has not tried the virtue of that implement upon an old grass sod. In my opinion, the harrow is not used upon wheat and corn half so much as it should be. Those who have never seen it tried, can have no idea how much it improves a field of wheat in the spring of the year, to go over it with a harrow and break the crust which the winter rains have formed. Have no fear of pulling up the wheat. To go over corn in the same way, just after it is up, and breaking the crust which has been formed by the sun and rain, is one of the best things that can be done to start the corn into a rapid, healthy growth.

Tea Nuts.—This reminds me that I have often seen *buds* in tea, that I have been informed, when a boy, was tea seed. But I have since been told that these were the buds of the Olea fragrans, which are used to scent the tea, and that without some artificial flavor, it would have little or none.

What Farmers ought to Know.—We know it? Now, let us see you make us know it. Why, this writer would actually have farmers educated, "just like a doctor." Preposterous! Would you destroy their happiness? Is not ignorance bliss? And is the farming class generally in any other than the sublimest state of bliss. It were a great pity to disturb them. "The farmer should be a botanist." Well, is he not? Don't he know a corn stalk from a turnip, and a thistle from a strawberry plant? What more would you have? "How does the seed germinate?" What is it to us? Don't we know if we plant corn it grows, and if it don't we replant? What more does the farmer want to know? Don't talk to us about your "book farming."

Blacksmiths' Portable Forge and Bellows.—This is a capital invention. I should think it well suited to plantation use, at the south, where it would often be convenient to move the blacksmith from place to place.

Pruning Vines.—I don't know much about the pruning, but I do know that the preparation of the ground, as recommended, is good, and that soap suds are a good fertiliser for grape vines.

To Guard the Lungs While Threshing.—Worth its weight in gold. Look to it threshers, and other laborers in dust.

To Cure Scratches.—True. Look at that, horsemen.

Mr. Robinson's Tour.—No. 15.—I am glad to find this gentleman still keeps going, and furnishing your readers with a mass of interesting matter, picked up by the wayside. How true it is that one half the world don't know how the other half live. I am sure one half of your readers did not know that the practice of digging up land with the hoe, was so extensive in any part of America, as this writer informs them is the case in South Carolina. What possible reason can these people have for discarding the plow? Can you tell us, Mr. R.? Your description of the manner of planting and preparing rice, I read with interest; for during all my own travels, I have never been upon a rice plantation, though I have often seen them when sailing to Charleston and Savannah.

REVIEWER.

THE GREAT HORNED OWL.

HORNED OWL.—FIG. 49.

THE great horned owl, (*Strix virginiana,*) though much oftener heard than seen, is a native of nearly all parts of North America, occurring not only in the vicinity of the sea shore and the alluvial bottoms along the borders of rivers, but in the highest mountain districts, and even in latitude 68° north. Hence it may be regarded as an extremely hardy bird.

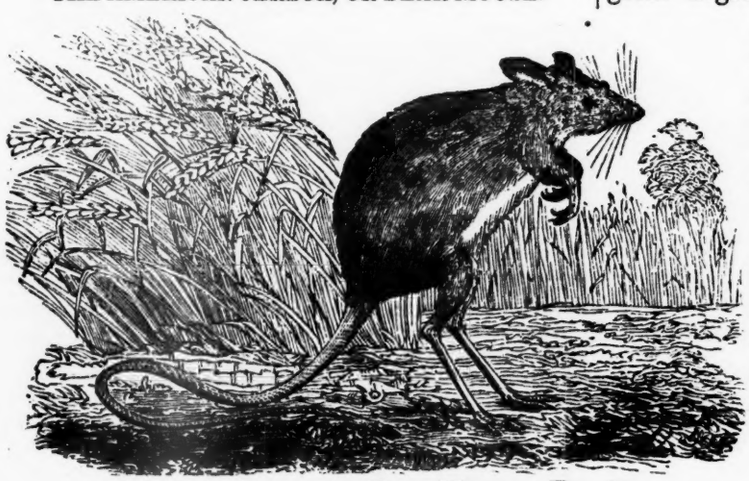
Like most, if not all other owls, his flight is chiefly by night, and as he flies, one may observe how exceedingly noiselessly he glides through the air; not a ruffle is to be heard, which arises from the very soft nature of his loose, unwebbed feathers, that offer but little resistance to the air. Audubon, in treating of this Nimrod of the night, describes him in his usual happy manner, nearly in the following words:—"Now and then he glides silently close over the earth, with incomparable velocity, and drops, as if shot dead, on his prey beneath. At other times, he suddenly alights on the top of a fence stake or a dead stump, shakes his feathers,

arranges them, and utters a shriek so horrid that the woods around echo to its dismal sound. Now, it seems as if you heard the barking of a cur; again, the notes are so rough and mingled together, that they might be mistaken for the last gurglings of a murdered man, striving in vain to call for assistance; at another time, when not more than fifty yards distant, he utters his more usual '*Hoo! Hoo! Hoo-e!*' in so peculiar an undertone, that a person unacquainted with the notes of this species might easily conceive them to be produced by an owl more than a mile distant."

The food of the great horned owl, according to the authority quoted above, consists principally of half-grown wild turkeys, pheasants, domestic poultry of all kinds, together with several species of ducks, young hares, opossums, field or deer mice, and squirrels; and whenever chance throws a dead fish in his way, it is seized upon, and with equal avidity is devoured. Notwithstanding his encroachments upon the poultry yard, this bird destroys an immense number of vermin, such as squirrels, mice, insects, worms, and any other animals he can master, and probably, on the whole, he does about as much good as harm.

When the sun shines brightly, the great horned owl is nearly blind, and may readily be approached and killed; but if the weather be cloudy, he is always on the alert, and at the least noise, rises on the wing and is soon out of reach.

THE AMERICAN JERBOA, OR DEER MOUSE.



AMERICAN JERBOA OR DEER MOUSE.—FIG. 50.

THE American jerboa, (*Meriones americanus,*) although, from its nocturnal habits, rarely seen, is not uncommon throughout the northern parts of the United States, and in the British possessions, as far as latitude 62° north. This curious little quadruped was called by the Mohegan Indians, *wah-peh-sous*, or the "animal jumping like a deer," from the remarkable property it possesses of jumping 10 or 12 feet to each leap, which circumstance has also occasioned it to be called the "jumping mouse."

This beautiful and agile little creature is of a bright fawn color above, and pure white beneath. Its hind legs, as will be seen by the adjoining cut, are much longer than the fore ones, and it usually moves by long leaps, similar to the kangaroo. Its tail is very long, which also aids it in its leaps. Its fore legs, though usually extended when erect, it rests upon the ground, when not disturbed. It forms its nest under heaps of stones, the loose foundations of old stone walls, or piles of fence rails, and occasionally, but not often, in stacks of grain. It is believed to become torpid during the winter, as individuals have been dug up in an apparently lifeless state, from about eight inches below the surface, which have been revived by exposure to warmth.

These mice feed chiefly on the roots of grass, grain, and seeds of various kinds; yet their injury to man is comparatively small. They evince a timid but gentle disposition, and are never seen in clear daylight unless disturbed, usually coming out between sunset and dark, after which they are exceedingly active, chirping like sparrows during the rest of the night, and often become the prey of the great horned owl.

PLANTING INDIAN CORN.

As the corn-planting season is coming on, I wish to call the attention of the cultivators of this most valuable grain, to a cure for the cut worm, crow and blackbird depredators.

Let the corn be soaked 12 hours in a warm, not hot, strong solution of Glauber salts; then rolled in plaster of Paris, and planted in damp weather, not in drouth, and the seed will, in a great degree, be free from the attacks of the worm, and I believe, wholly so from that of birds. The salts and plaster will, at the same time, act as powerful fertilisers, and bring forward the corn many days sooner, than when planted dry; but it does not answer well to sow or plant any soaked grain in a dry time.

I have come to the conclusion, that the best manure for corn, is wood ashes and lime from the stone, in which magnesia forms a component part, as much of the lime stone is of this kind in Pennsylvania, and this state.

R. L. C.

Paterson, N.J.

TRIMMING THE EARS OF A HORSE.—A correspondent asks if it is best to permit this. Certainly not. The hair is placed there by nature, to protect the orifice and drum of the ear from insects, floating matter, and sudden changes of the weather; it should therefore be left untouched. Some persons are in the habit of singing the hair in the ears, with a candle, or hot iron. This is barbarous and cruel, for it cannot be done without burning the skin. If people will persist in removing the hair, let them cut it out with sharp scissors. This inflicts no pain. The hair on the legs of horses should be left to grow during winter, as a protection against the scratches.

TRIAL OF PLOWS,

To take place at Albany, the second week in June, commencing on Tuesday the 4th, and to continue as long as may be necessary to ensure a fair trial of every implement entered.

JUDGES.

Anthony Van Bergen, Coxsackie; John Delafield, Oaklands; J. Stanton Gould, Hudson; Sanford Howard, Albany; B. B. Kirtland, Greenbush.

PREMIUMS.

Best sod plow for stiff soils, furrow not less than 7 inches in depth, nor over 10 inches in width, Diploma and....	$15
Second best do	10
Best sod plow for light soils, furrows not less than 6 inches deep and 12 inches wide, Diploma and.....	15
Second best do.....	10
Best plow for fallows, or old land, Diploma and	10
Second do	8
Best subsoil plow, Diploma and	8
Best sidehill plow, Diploma and	8

Competitors must become members and enter their names and plows at the rooms of the society, by the 15th of May, with B. P. Johnson, Secretary; and the plows to which premiums are adjudged, to be deposited in the rooms of the society for exhibition, if plows of the same pattern are not already there.

The committee will meet at the society's rooms on Monday, 3d of June, to make arrangements for the trial. Trial to continue until the committee and competitors are fully satisfied, so that the awards may with confidence be relied upon, from the thorough trial made, leading to practical and satisfactory results.

N. B.—A general competition is invited under this head, as the trials will be conducted and the decisions made without regard to any former trials or awards, and will be open *to competitors from any part of the world.*

RULES REGULATING THE TRIAL.

In deciding the general question—What are the best plows? the committee will be governed by the following principles:—1st, the character of the work performed; 2d, the power required in draft; 3d, quality of materials, durability and cost of the implements.

For *stiff soil*, excellence of work shall consist, first, in leaving the furrow slice light and friable; second, in so disposing the sod and all vegetable matter as to insure its ready decomposition.

For *sandy soil*, or that which is already too light, the points in regard to work will be, first, thoroughly burying the vegetable matter; and second, leaving the ground generally level.

For *fallows*, or old land, the principle in reference to the quality of work will be, the thorough pulverisation and friability of the soil.

In determining the power required in draft, the most perfect implement will be used, and the trial will be conducted in the most careful and thorough manner.

The same implement for testing draft, and the same team, will be used for all plows in the same class.

The plows may be held by the competitors or persons appointed by them, as may be preferred.

The Executive Committe of the New-York State Agricultural Society, realising the importance of perfecting the plow, the most important implement of husbandry, and desirous of affording every possible facility for a thorough trial, have appointed judges competent to do justice to the competitors, and have selected the second week in June, in this city, as the time for the trial of plows to be made. The only object of the Executive Committee is, to ascertain, if practicable, the best plows for *stiff soils*, for *sandy soils*, for *fallows, or old land; best subsoil plow; best sidehill plow.* The principles upon which the trial will be made are annexed; and time sufficient will be given, so that every competitor shall be satisfied with the fullness and fairness of the trial. It is hoped, that great good will result from a trial of this description; and it is expected, that competitors will be present from all our best manufacturing establishments, and that the awards of the judges will be such as to satisfy our farmers, as well as the manufacturers of plows, as to the character and value of the implements which shall be declared entitled to the premiums of the society. The competition *is open to all;* and we would most cordially invite you to be present on the occasion and exhibit your implements; and you are desired to *give early notice by mail to the subscriber, should you conclude to be present.* B. P. JOHNSON,

Albany, April 6th, 1850. *Cor. Sec'y.*

WEIGHT OF AN ACRE OF SWEET POTATOES.—John F. Townsend, Esq., of Edisto Island, informs us that he weighed a crop of the "sweet yam," which gave 12,742 pounds per acre. A crop of "yellow yams" gave 21,344 pounds.

IMPROVEMENT IN APPLE ORCHARDS.

CAN you, through the medium of your paper, tell me how apple trees can be made to bear yearly a good crop? It was my impression previous to reading your paper that some apple trees bear only once in two years. But I suppose that the majority of fruit trees will yield a a crop, under proper culture, yearly. I have some growing in turf ground, which six or eight years ago produced good fruit, but now, even when they do bear, much of it falls off prematurely. The soil in which they are situated is of a very rich black. A SUBSCRIBER.

Southampton, L. I., April, 1850.

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In answer to the above, we would inform our correspondent that Mr. R. L. Pell, of Pelham, Ulster county, New York, has succeeded in making his Newton pippin trees bear every year by forking in around the roots a liberal compost of charcoal, bonedust, common salt, soot, wood ashes, and oyster-shell lime. To this may be added brick dust, burnt clay, leaf mould, or greensand marl. By keeping the trees properly cleaned and pruned, they cannot fail to bear.

Ladies' Department.

PRESERVING BUTTER WITHOUT SALT.

The following is the mode of preserving butter perfectly sweet, or, at least, perfectly fit for use, through the whole season, in the valleys of Switzerland, without any admixture of salt. A narrow deal, (pine,) board not more than four or five inches wide, is fixed horizontally in an open place in the dairy; wooden pins, from two to three feet in length, are fixed in an upright position into this, their whole length projecting above its surface. As the butter is made, it is placed daily around these pins, (one at a time,) beginning at the lower end, and in a mass not exceeding, at first, the width of the board. Every day, as more butter is made, it is added to the previous portion around the pin, the diameter of the growing mass, being gradually enlarged upwards, until the upper surface overhangs the base to a considerable extent, like an inverted beehive. When one pin is filled, another is proceeded with in like manner, and so on.

The exposed surface of these masses gets soon covered with a sort of hard film, which effectually excludes the access of the air; and this circumstance, with two others, namely, the complete expression of milk from the butter, and the unobstructed circulation of cool mountain air through the dairy, will go far to explain how butter so treated, can remain so long without becoming spoiled.

ELDERBERRY PIES.

It may not be generally known, that the fruit of the common black-berried elder, (*Sambucus canadensis,*) affords a most delicious and wholesome material for pies. When rightly prepared, it would not be known from those made from the whortleberry, and many would prefer them to the raspberry, and the blackberry. A table-spoonful of vinegar should be added to each pie, which will neutralise the peculiar taste, and impart a pleasant acid flavor. No other precaution need be taken, and no difference is observed in preparing them for use.

The red-berried elder is poisonous, but cannot be mistaken for the other, because it ripens its fruit long before the black elder comes to maturity. When this very abundant berry is better known, it will be more highly prized, and doubtless would improve in quality under judicious cultivation. H.

Somerville, St. Lawrence Co., N. Y.

Irish Way of Boiling Potatoes.—In Ireland, where this root has been for so long a period the chief nourishment of the people, and where it takes the place of bread and other more substantial food, it is cooked so that it may have, as they call it, a "bone" in it; that is, that the middle of it should not be quite cooked. They are done thus:—Put a gallon of water with two ounces of salt in a large iron pot, boil for about ten minutes, or until the skin is loose, pour the water out of the pot, put a dry cloth on the top of the potatoes, and place it on the side of the fire, without water, for about twenty minutes, and serve. In Ireland, turf is the principal article of fuel, which is burnt on a flat hearth; a little of it is generally scraped up round the pot, so as to keep up a gradual heat By this plan, the potato is both boiled and baked. Even in those families where such a common act of civilised life as cooking ought to have made some progress, the only improvement they have upon this plan is, that they leave potatoes in the dry pot longer, by which they lose the "bone." They are also served up with their skins, (jackets,) on, and a small plate is placed by the side of each guest.

NEW MODE OF MAKING COFFEE.

Choose the coffee of a very nice brown color, but not black (which would denote that it was burnt, and impart a bitter flavor); grind it at home, if possible, as you may then depend upon the quality; if ground in any quantity, keep it in a jar hermetically sealed. To make a pint, put two ounces into a stewpan, or small iron or tin saucepan, which set dry upon a moderate fire, stirring the coffee round with a wooden spoon continually, until it is quite hot through, but not in the least burnt. Should the fire be very fierce, warm it by degrees, taking it off every now and then, until hot, (which would not be more than two minutes,) when pour over it a pint of boiling water, cover close, and let it stand by the side of the fire, (but not boil,) for five minutes, when strain it through a cloth, or a piece of thick gauze; rinse out the stewpan, pour the coffee, (which will be quite clear,) back into it, place it upon the fire, and, when nearly boiling, serve with hot milk, if for breakfast, but with a drop of cold milk or cream, if for dinner.

The foregoing proportions would make coffee good enough for any person; but more or less coffee could be used if required. The cloth through which it is passed should be immediately washed and put by for the next occasion. A hundred cups of coffee could be made as here directed, in half an hour, by procuring a pan sufficiently large, and using the proper proportions of coffee and water, passing it afterwards through a large cloth or jelly bag.—*Soyer's Modern Housewife.*

Coffee, French Fashion.—To a pint of coffee, made as directed above, add a pint of boiling milk; warm both together until nearly boiling, and serve the usual way.

To Make Cold Cream.—Warm gently together four ounces of oil of almonds, and one ounce of white wax, gradually adding four ounces of rose water. This will make good cold cream, whereas, that sold in the shops, is usually nothing more than lard beat up with rose water.

To Make Batter Fritters.—Take half a pound of flour, one ounce of butter, (which melt,) the whites of three eggs, well beaten, half a glass of beer, and enough water to make a thick batter.

Foreign Agricultural News.

By the steamer America, we are in receipt of our foreign journals to 6th of April.

MARKETS.—*Ashes* same as per our last. *Cotton*, an advance of $\frac{1}{8}d.$ per lb., with large sales. *Grain and Flour* in consequence of late unpromising weather, at a trifling advance. *Provisions*, dull, with a moderate demand. *Lard*, lower.

To Kill Ants.—Scald them with boiling water, or pour spirits of turpentine into their runs.—*Gardeners' Chronicle.*

Remedy for Mildew.—Apply flour of sulphur to the plants the moment the mildew appears.—*Ibid.*

Paint for Iron Work.—Take one part of Stockholm tar, and two parts of gas tar, lay it on while quite hot, with a brush, spreading it as thinly as possible.—*Ibid.*

Death of Dr. Koch.—Hooker's Journal of Botany announces the death of Professor Koch, of Erlangen, the distinguished author of the "Synopsis Floræ Germanicæ et Helveticæ," and of many other useful and talented botanical disquisions. His knowledge of European plants was surpassed by few if any botanists of the day.

To Prevent Rats Undermining Buildings.—Rats cannot burrow through shingle (beach pebbles, nor small stone chips). To secure the foundations of any building against them, it is only necessary to lay the foundation in a bed of shingle, or rough gravel, from six to ten inches thick.—*English Paper.*

Importation of Sugar Cane into England.—A short time since an importation of sugar cane took place from Madeira. Another importation of the kind has lately taken place from Madeira, and in addition to this, an arrival of some packages of sugar cane has taken place at Liverpool from Havana.

Fishing for Rats.—A new branch of industry has sprung up in Newcastle. Juvenile disciples of Isaak Walton—the shade of the old angler frowns upon us while we write—may be seen in the streets, patiently reposing by the side of a grate, with a line and baited hook in the sewer, to catch rats. Their prey are sold to the jackals of the rat hunters, men who keep hundreds of rats in store, and sell them to sportsmen.—*Gateshead Observer.*

The Potato Restored in Ireland.—"Everybody is amazed," says the Clare Journal, "at the immense quantities of potatoes which have been for some time past pouring into the Ennis market. We have, also, had occasion to report an equally astonishing supply in the markets of Kilrush, Miltown, and Ennistymon; and, indeed, in all the market towns throughout this part of the country, the same unexpected sight is to be witnessed. Other agricultural produce is also freely brought in." It is admitted, on all hands, that potatoes are not only abundant, but excellent in quality; and they are sold at comparatively moderate prices.

Sale of Louis-Philippe's Stud.—Twenty race horses, the private property of his Majesty Louis-Philippe, forming the royal stud at Meudon, were sold by auction, at the park of Mausseaux, in Paris, a short time since. The sale was well attended. The highest price obtained was 3,220 francs, for an English chestnut mare, 11 years old. A yearling colt, bred at Meudon, was purchased for the President of the Republic, at the price of 1,525 francs. A two-year-old bay filly was likewise purchased for the President of the Republic at 1,870 francs. The sale produced 25,000 francs.

The Potato Mania in Ireland.—A correspondent of the Times writes to that paper as follows:—"I learn on the authority of a gentleman of the highest commercial standing in cork, that no mere newspaper report can convey even a remote idea of the potato mania which has seized all classes in that extensive district. Grass lands, parks, demesnes, every available nook, have been cut up for the reception of seed. The whole country promises to be one monster potato field. The cultivation of wheat has been almost totally neglected, as there is no prospect of that crop ever again proving remunerative, and the only cereals that have been sown are barley and oats, and these to a very limited extent. Supposing the potatoes to escape disease, and the yield to be an average one of former years, he calculates that, from their abundance, they can be readily purchased for a penny a stone. There is, it is said, 'method in madness,' and such, it seems, is the case in the present instance, as the experiment now in progress is made with a view of preparing the land for a succession of other green crops in the year following."

Great Sale of Shorthorn Cattle.—The celebrated herd of the late Thomas Bates, of Kirkleavington, Yorkshire, consisting of 70 head, is to be sold on the 9th inst. His tenants, J. R. & T. Bell, will also offer 40 head on the same day. Several American gentlemen will be present at this great sale, and purchase, if they find anything there at fair prices, worthy of transportation across the Atlantic. But, from what we hear of the late breeding of this stock, anything out of the Duchess or Wildeyes tribes would be of little value as a fresh cross on our own fine native herds of shorthorns.

Variation in the Composition of Peruvian Guano.—By the examination of more than thirty specimens of Peruvian guano, it has been ascertained by Professor Way, the consulting chemist to the Royal Agricultural Society of England, that the per centage of ammonia and phosphate of lime, the most important ingredients were confined within the following narrow limits:—

	Lowest	Highest	Mean
Water,.....	8.88	22.68	13.09
Organic matter and salts of ammonia,.....	37.78	58.82	52.61
Sand,.....	1.17	2.95	1.54
Earthy phosphates, ...	19.46	34.45	24.12
Ammonia yielded by 100 parts,	15.98	18.94	17.41

Experiments in Cattle Feeding.—An account of an experiment in feeding cattle, by James Laidlaw, of Frampton-on-Severn, as detailed in the London Agricultural Gazette, is as follows:—

1. Lot 1st, 13 three-year-old heifers, mixed breed. Lot 2d, 7 three-year-old bullocks, mixed breed. Lot 3d, 9 three-year-old heifers, Hereford breed.

2. Lot 1st, soiled in yards during summer; put up to fatten 6th October. Lot 2d, ditto, ditto. Lot 3d, put into open yards as soon as bought.

3. Lot 1st, tied up in stalls 10½ ft. long by 4½ ft. wide. Lot 2d, ditto. Lot 3d, in open yard, with shed to lie under.

4. Lot 1st, each beast consumed daily 70 lbs.; raw Sweeds, 2½ lbs.; linseed meal, sooked in cold water, 2 lbs.; barley meal, and 8 lbs. straw chaff. Lot 2d, each beast consumed daily, 90 lbs.; raw Sweeds, 2½ lbs.; linseed meal, soaked as above, 2 lbs.; barley meal, and 8 lbs. straw chaff. Lot 3, put in the yard to freshen up for stalls, receiving a small quantity of turnips, with as much straw as the can consume, but no account taken of the quantity.

5. Little wheaten straw, no account taken of the quantity.

6. Lot 1st, estimated increase in weight by Christmas, 10 imperial stones (140 lbs.); the value depends on the market price when sold. Lot 2d, increased in size more than the first, but not so forward. Lot 3d, going on very well.

Editors' Table.

PRINCESS TRIBE OF SHORTHORNS.—For an advertisement of the produce of a young bull of this superior tribe of shorthorn cattle, see advertisment page, 167.

THE TRANSACTIONS of the New-York State Agricultural Society has been received, and will receive further notice in our next number.

LITERARY THIEVING.—The Southern Planter quotes a recent article of ours, on draining meadows with the subsoil plow, crediting to the Lancaster Pa. Gazette. The latter, we believe, is one of the papers which habitually steal from us, and hence the result of having other peoples' labors credited it.

FIRE-PROOF CALICO.—A fire-proof calico is now made for children by immersion in phosphate of magnesia. It will ignite by contact with flame, but the fire will not spread. It goes out immediately.

LIVE STOCK INSURANCE.—We would call attention to the advertisement in this paper, of the American Live-Stock Insurance Company, at Vincennes, Indiana. It is a new thing in this country, but nevertheless, an important consideration to the farmer. Why should he not insure his stock of cattle, as well as a merchant his stock of goods? Insurance companies of this kind have been in operation for some time in Europe, and have been productive of much good. One ought to be incorporated in this state. Will the farmers think of it? The west, with great good sense and judgment, have now given us the lead in this matter.

MR. MORRIS IN EUROPE.—Among the passengers in the steamer Europa, which left here for Liverpool on the 17th. ult., was Lewis G. Morris, Esq., of Mount Fordham, New York. His general object in going abroad, is to make himself acquainted with the improvements in agriculture in Europe, and more particularly to look over the fine stock of England, with a view of selecting for importation. He will return in September, and his next annual sale of stock will take place in October following. We wish Mr. Morris a pleasant and profitable trip abroad.

THE AMERICAN BIRD FANCIER, a little treatise on Cage and House Birds, has just been published by C. M. Saxton, 121 Fulton street, New York. See advertisement on page 167 of the current volume.

THE FARMERS' GUIDE TO SCIENTIFIC AND PRACTICAL AGRICULTURE, by Henry Stephens, Scotland, author of the Book of the Farm, and John P. Norton, Professor of scientific agriculture, Yale College, Connecticut. The character of this work is much like that of the Book of the Farm, with everything new in the way of agricultural science discovered since its first publication, and is adapted as much as possible to this country, by Professor Norton. Published by Leonard Scott & Co., of this city. It is a highly valuable work, and is issued in numbers of 64 pages each, handsomely embellished, with steel and other engravings. The price is 25 cents per number, or $5 for the twenty-two, which will make two large octavo volumes of 1,400 pages. It is for sale by C. M. Saxton, 121 Fulton street, N. Y.

THE FARMER AND PLANTER.—This is a new publication just issued at Pendleton, South Carolina, edited and published by Messrs. George Seaborn, and J. J. Gilman. It is in quarto form, 16 pages monthly, price one dollar a year. It is handsomely got up, and filled with just such matter as is best calculated to improve the planters of the south. We hope they will patronise the work liberally. They little know how much it would increase their wealth and comfort, if they would put twenty thousand copies of this periodical in circulation, and see that the same were thoroughly perused, and its excellent precepts put into immediate practice.

SUCCESSFUL FARMING.—A worthy clergyman informed us recently, that he purchased seven acres of miserable, sandy land in the neighborhood of Saratoga, a few years since, which, by manuring and judicious cultivation, he brought up to such condition, that from three acres and a half only, he produced green fodder throughout the season, for three cows, one bull, one horse, and seven sheep; and cut all the hay consumed by them in the winter. The hay, however, was pieced out by the use of grain, roots, and straw, taken from the remaining half of the seven acres. When he sold the land, he received over $100 dollars an acre, for what a few years previously, was bought for as many shillings.

We have kept a good lookout for successful farming, for the last few years, and have invariably found, that intelligence and a careful investigation of the experiments and best practisers of others, furnished the ground work for the superiority of every one who has attained to eminence in agriculture. *So much for book farming.*

PROFITS OF DOGS.—Many of our friends and correspondents have frequently given us the profits of poultry, milch cows, sheep, oxen or mule labor over horses, &c.; but the first man is yet wanting, who has communicated essay, chapter, or paragraph on the profit of dogs. This is passing strange, as everybody keeps his dog, and many keep their packs. The whole country is overrun with them. Surely, then, somebody ought to know their value, and be able to report an account current of their profits. Let us hear from some one of our most observing correspondents, and especially such of them as live among the canine marauders of the sheep fold. We imagine the account will stand something thus:—

Towzer, in account current with my farm from Jan. 1st, 1849, to Jan. 1st, 1850,

Dr.

To killing my best imported Southdown ram, Billy,	$50.00
Do. 3 choice wethers, $4.50 each,	13.50
Do. 17 breeding ewes, $3.25 "	55.25
Cost of lawsuit with neighbor Strict, for sheep killing,	27.00
Damages paid him on judgment rendered,	29.17
Attendance of myself and five laborers, as witnesses, 3 days each, at 8s. per day,	18.00
Worrying farmer Short's horse, and paid him for consequent lameness,	12.00
Original cost,	10.00
52 weeks' board, at 4s.,	26.00
	$240.92

Cr.

By driving pigs out of the corn at sundry times, through a bad fence, which my hands neglected to repair,	$2.00
Killing one polecat $1.50, 3 squirrels, 75cts.,	2.25
Bringing in newspapers from gate 18 times,	0.03
Comfort and satisfaction in general from owning Towzer one year,	273.19
	$277.47
Balance in favor of Towzer,	$36.55

Thus by giving a pretty round credit for the *general satisfaction* derived from Towzer, we show an actual profit, during the current year, of $36.55, or 305 per cent. on the original capital invested, which is a most liberal return for farm stock, and will probably induce many enterprising, scheming young men to follow in similar investments.

Review of the Market.

PRICES CURRENT IN NEW YORK, APRIL 20, 1850.

ASHES, Pot,	℔ 100 lbs.	$6.00	@	$6.06
Pearl,	" do.	5.62	"	5.69
BALE ROPE,	" lb.	9	"	11
BARK, Quercitron,	" ton.	39.00	"	41.00
BEANS, White,	" bushel.	75	"	1.25
BEESWAX, American, Yellow,	" lb.	20	"	26
BOLT ROPE,	" "	10	"	11
BONES, Ground,	" bushel.	45	"	55
BRISTLES, American,	" lb.	25	"	65
BUTTER, Table,	" "	15	"	25
Shipping	" "	9	"	15
CANDLES, Mould, Tallow,	" "	10	"	13
Sperm,	" "	25	"	47
Stearine,	" "	25	"	30
CHEESE,	" "	05	"	10
COAL, Anthracite,	2,000 lbs.	5.00	"	6.00
CORDAGE, American,	" lb.	11	"	13
COTTON,	" "	10	"	15
COTTON BAGGING, Am. hemp,	" yard.	15	"	16
FEATHERS,	" lb.	30	"	40
FLAX, American,	" "	8	"	09
FLOUR, Ordinary,	" bbl.	4.00	"	5.25
Fancy,	" "	5.50	"	6.50
Richmond City Mills,	" "	6.50	"	6.75
Buckwheat,	" "	—	"	—
Rye,	" "	2.75	"	3.00
GRAIN—Wheat, Western,	" bushel.	95	"	1.33
" Red and Mixed,	" "	80	"	1.15
Rye,	" "	58	"	60
Corn, Northern,	" "	58	"	63
" Southern,	" "	55	"	61
Barley,	" "	75	"	76
Oats,	" "	38	"	45
GUANO, Peruvian,	2,000 lbs.	45.00	"	50.00
Patagonian,	" do.	34.00	"	35.00
HAY, in Bales,	" 100 lbs.	48	"	60
HEMP, Russia, Clean,	" ton.	215.00	"	220.00
American, Water-rotted,	" "	160.00	"	200.00
" Dew-rotted,	" "	140.00	"	175.00
HIDES, Dry Southern,	" "	9	"	10
HOPS,	" lb.	6	"	18
HORNS,	" 100.	2.00	"	10.00
LEAD, Pig,	" 100 lbs.	5.00	"	5.13
Pipes for Pumps, &c.,	" lb.	5	"	07
MEAL, Corn,	" bbl.	2.75	"	3.00
Corn,	" hhd.	14.00	"	14.12
MOLASSES, New-Orleans,	" gallon.	24	"	28
MUSTARD, American,	" lb.	7	"	10
NAVAL STORES—Tar,	" bbl.	1.50	"	1.75
Pitch,	" "	1.25	"	1.75
Rosin,	" "	1.00	"	1.20
Turpentine,	" "	2.44	"	2.75
Spirits of Turpentine,	" gallon.	32	"	34
OIL, Linseed, American,	" "	83	"	90
Castor,	" "	2.00	"	2.25
Lard,	" "	60	"	70
OIL CAKE,	" 100 lbs.	1.25	"	1.50
PEAS, Field,	" bushel.	75	"	1.25
Black-Eyed	" 2 "	1.75	"	2.00
PLASTER OF PARIS,	" ton.	2.00	"	2.25
Ground, in barrels of 300 lbs.		1.12	"	1.25
PROVISIONS—Beef, Mess,	℔ bbl.	8.50	"	11.00
" Prime,	" "	5.50	"	8.00
" Smoked,	" lb.	6	"	12
" Rounds, in Pickle	"	4	"	6
Pork, Mess,	℔ bbl.	10.00	"	12.00
" Prime,	" "	6.50	"	10.00
Lard,	" lb.	6	"	7
Bacon Sides, Smoked,	" "	3	"	4¼
" in Pickle,	" "	3	"	4
Hams, Smoked,	" "	5	"	9
" Pickled,	" "	4	"	7
Shoulders, Smoked,	" "	4	"	6
" Pickled,	" "	3	"	5
RICE,	" 100 lbs.	2.25	"	3.62
SALT,	" sack.	95	"	2.00
" Common,	" bushel.	20	"	35
SEEDS—Clover,	" lb.	6	"	9
Timothy,	" bushel.	2.50	"	3.50
Flax, Clean,	" "	1.75	"	1.80
" Rough,	" "	1.70	"	1.75
SODA, Ash, (80 per cent. soda,)	" lb.	3	"	—
Sulphate Soda, Ground,	" "	1	"	—
SUGAR, New-Orleans,	" "	4	"	6
SUMACH, American,	" ton.	35.00	"	37.00
TALLOW,	" lb.	7	"	8
TOBACCO,	" "	3	"	11
WHISKEY, American,	" gallon.	23	"	25
WOOLS, Saxony,	" lb.	40	"	60
Merino,	" "	35	"	40
Grade Merino,	" "	30	"	35
Common,	" "	20	"	30

NEW-YORK CATTLE MARKET.

At Market.—1,350 Beeves, (1,000 southern, the remainder from this state and the east,) 75 Cows and Calves, and 1,200 Sheep and Lambs.

Beef Cattle.—An abundant supply, sales varying from $6 to $8.25 per hundred. Demand fair but dull at the close. About 100 left over.

Cows and Calves.—The sales of these generally run from $20 to $28.50, and in some cases as high as $42.50. 20 left over.

Sheep and Lambs.—The prices of these continue firm. The sales varied from $1.50 to $3.25. A few sold as high as $6. All sold.

April 15.

REMARKS.—Business has been very brisk the past month, but very little change in prices. Cotton, Hay, and Barley have advanced somewhat, while Grass Seeds have fallen as usual when the season is nearly over for sales. In other things, we have little change to notice.

THE WEATHER up to the 20th, at the time we are writing, has been colder, on an average, than any April for several years past. Everything is consequently retarded. But late planting will probably be fortunate in one respect; it guards against destruction by late frosts. There is great promise of an abundant fruit year.

To CORRESPONDENTS.—Communications have been received from Valentine Hallock, H. F. Colesworthy, Newton Bagg, T. B. Miner, E. A. Holcomb, M. W. Philips, Linus Cone, J. G. C., Stephen R. Gray.

GLASS FOR CONSERVATORIES and Horticultural Purposes, &c.—Plain Sheet and Rough Glass for Conservatories and Greenhouses, of all sizes and thickness; Propagating Glasses, Fish Globes, Lactometers, and Glass Milk Pans; also, Colored and Enamelled Glass for Windows and other uses, furnished at order, by D. J. BROWNE,
At the Agricultural Warehouse of A. B. Allen & Co.,
mh 189 Water street, N. Y.

BONE MILL.—For sale, one Bone Mill, for horse power, complete, capable of grinding from 150 to 200 bushels per day. Also, a Steam-Power Mill, capable of grinding from 800 to 1,200 bushels per day. Engine of 16-Horse Power, with two boilers, of 25-Horse Power, all complete. Apply by letter, or otherwise, to ALEXANDER HORNBY,
my 1t 26th St., 9th Avenue, New York.

FRUIT AND ORNAMENTAL TREES FOR SALE.—30,000 Peach Trees of the choicest kinds from $5 to $6 per hundred. Also, 30,000 Apple Trees of all the standard varieties, of extra size, from 7 to 10 feet high, at $12.50 per hundred, among which are a large quantity of the celebrated Monmouth Pippin, Baldwin, Esopus Spitzenberg, Newtown Pippin, Rhode-Island Greening, &c., &c. Catalogues, with prices annexed, may be obtained by applying by letter, to the proprietor.
ISAAC PULLEN, Highstown, N. J.
apr 2t*

COMMERCIAL GARDEN AND NURSERY PARSONS & CO., at Flushing, near New York. The proprietors of this establishment invite public attention to their large assortment of every desirable variety of Fruit and Ornamental Tree or Shrub. Their importations of everything new in Europe are annually continued, and they offer a very large variety of Ornamental Trees and Shrubs imported expressly for arboretums and pleasure grounds. Their collection of Roses is annually enriched by novelties from abroad, many of which may be found described in their new work on the Rose, recently published. Fruit Trees receive their particular attention, and are propagated under their personal supervision. This care, with their possession of extensive specimen grounds, in which is tested every variety of fruit they cultivate, enables them confidently to guarantee the genuineness of the varieties.

Their care in pruning and cultivation enables them also to send out thrifty and well-formed trees. From their large scale of propagation, they can offer to dealers very liberal discounts, where hundreds or thousands are taken. Orders or inquiries can be addressed to the proprietors at Flushing, near New York, where catalogues will also be furnished. They have established a Branch at Brighton Depôt, near Boston, which, by the entire success of their trees transplanted thither, has thoroughly proved the superior adaptation of Long-Island Trees to the soil and climate of any part of New England. This they attribute to the perfect maturity attained by the wood before frost, which renders the trees suitable for transportation to any latitude.

At the season of transplanting, a salesman will be at their Brighton Branch to furnish those who may prefer obtaining their supply thence. mhtf

N. B. S. B. Parsons will be found every Saturday during the month of April at the Agricultural Warehouse of A. B. Allen & Co., 189 Water st. N. Y., for the transaction of business.

CHARLESTON HOTEL.—This extensive house is now prepared to offer as good accommodations to gentlemen and ladies as any other in the city. D. MIXER.
apr 5t*

"I pronounce the Charleston Hotel, one of the best between New York and New Orleans." SOLON ROBINSON.

WEBSTER'S DICTIONARY, UNabridged. Published by G. & C. MERRIAM, Springfield, Mass., and for sale by booksellers generally.

Washington, Jan. 31st, 1850.

I possess many Dictionaries, and of most of the learned and cultivated languages, ancient and modern. But I never feel that I am entirely armed and equipped in this respect, without Dr. Webster at command. DANIEL WEBSTER.

I think it the most useful Dictionary of the English and American language extant. HENRY CLAY.

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The etymological part surpasses anything that has been done for the English language by any earlier laborers in the same field. GEO. BANCROFT.

We recommend it to all who desire to possess a complete, accurate, and reliable Dictionary of the language.

Signed by Webster, Cass, Benton, Fillmore, Briggs, Calhoun, Winthrop, Chancellor Frelinghuysen, and thirty other Members of the United States Senate.

We rejoice that it bids fair to become the standard Dictionary to be used by the numerous millions of people who are to inhabit the United States. Signed by 104 Members of Congress.

The copious list of geographical names is an important feature of this work for schools, and is itself worth the cost of the whole work. School Committee of Framingham.

Resolved, unanimously, that Webster's Quarto Dictionary be the Standard in the New-York State Normal School.

my WM. H. CAMPBELL, Clerk Ex. Com.

For sale by C. M. SAXTON, 121 Fulton street, New York.

THE AMERICAN LIVE-STOCK INSURance Company, Vincennes, Indiana.

Charter Unlimited. Granted January 2d, 1850.

CAPITAL $50,000!

For the Insurance of Horses, Mules, Prize Bulls, Sheep, and Cattle, of every description, against the combined risks of Fire, Water, Accidents, and Disease.

Losses paid in 30 days after proof of death.

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RUSSELL'S HISTORY OF MODERN EUrope, with a view of the Progress of Society, from the Rise of Modern Kingdoms to the Peace of Paris, in 1763. With a Continuation of the History, by Wm. Jones, Esq. Engravings. 3 vols. 8vo. sheep extra. Price $5.

"The History of Modern Europe, by Dr. Russell has always been prized for its comprehensiveness. It includes the most important period in the annals of mankind, as the author's narrative introduces the era when the renovation of society commenced, after the prostrated continuance of that mental gloom, which, during several centuries, covered the civilised world."

Says Chambers of this work, "It is a production at once so succinct, yet so perspicuous, comprehensive, and entertaining, that all rivalry appears to be precluded."

The above, with a large collection of other valuable histories, (for which see their Catalogue,) published and for sale by

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THE PRINCESS TRIBE OF SHORTHorns.—In January, 1849, Mr. Sheafe, of High Cliff, Dutchess County, New York, imported the young bull, Exeter, bred by Mr. Stevenson, of Durham, England. Mr. Stephenson is the most celebrated breeder now living, and his herd is of the Princess tribe, one of the best and most ancient stock of Shorthorns. The breeding of the Princess tribe can be traced back as pure shorthorns upward of *two hundred years*, a matter of no small consideration to those who wish to breed *true stock* of a *reliable quality*.

Exeter was selected for Mr. Sheafe, by that excellent judge of stock, Mr. A. Stevens, of New York. He was considered one of the *very best* bulls in England. Quite a high price was paid for him. It is believed that his superior has never before been imported into this country. He is a beautiful yellow-red—which is a bright-red, with a fine golden or saffron under tinge, arising from a rich yellow skin, and is the *only* bull of this peculiarly fine red *ever* imported. A few calves of his get will be for sale this season. Their dams are Herd-Book Shorthorns, very fine in their points, and *great milkers*. Those who desire to improve their present stock by taking a *superior fresh cross*, will please to apply to

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Browne's American Bird Fancier, considered in reference to rearing, feeding, and management of cage and house birds. Price 50 cents in muslin, or 25 cents with paper cover.

Thomas' American Fruit Culturist, price $1, cloth; containing Directions for the Propagation and Culture of FRUIT TREES, in the Nursery, Orchard, and Garden, with descriptions of the principal American and Foreign Varieties. Illustrated with three hundred accurate Figures.

Miner's American Bee Keeper's Manual, price $1, cloth—75 cents in paper covers; being a Practical Treatise on the History and Domestic Economy of the Honey Bee, embracing a full illustration of the whole subject, with the most approved methods of managing this insect, through every branch of its culture, the result of many years' experience. Illustrated with three hundred accurate figures.

Allen's Treatise on Domestic Animals, Illustrated. Price 75 cents, cloth—50 cents paper. Being a history and description of the Horse, Mule, Cattle, Sheep, Swine, Poultry, and Farm Dogs, with Directions for their Management, Breeding, Crossing, Rearing, Feeding, and preparation for a profitable market; also their Diseases and Remedies; together with full Directions for the Management of the Dairy, and the Comparative Economy and Advantages of working Animals, the Horse, Mule, Oxen, &c.

TO FARMRES AND PLANTERS.—The New and Improved Poudrette of "The Lodi Manufacturing Co.," is offered for sale the present season at the following rates, viz:—1 barrel, $2, 3 barrels, $5, and at the rate of $1.50 per barrel, for any quantity over 6 barrels. Delivered free from charge for barrels, cartage, or other expenses, on board of vessels in the city of New York.

This article, made from night soil, into a light, dry, and inodorous *powder, is the cheapest and most powerful manure in the world for corn or tobacco. Two barrels*, ($3 *worth*,) *will manure an acre of corn in the hill*, and will bring a heavier crop than can be obtained in any other way.

A pamphlet containing instructions for use, certificates from some of the first agriculturists in the United States, and much valuable information will be sent *gratis*, to any one applying, (*post-paid* if by letter.) to "The Lodi Manufacturing Co., 66 Dey street, New York." Also for sale by A. B. Allen & Co., 191 Water street. apr 3t

LONG-ISLAND LAND FOR SALE—10,000 acres.—The undersigned is engaged in improving and cultivating the wild lands of Long Island, on the borders of the Long-Island Railroad, about 50 miles from the city of New York, at Lake Road, or Junction. Several years' experience, and a thorough knowledge of the soil and its capabilties to produce, enable him to say confidently, that these lands are equal to any land on Long Island when cultivated in the same manner. That all kinds of fruit, grain, and vegetables, that are produced on any part of the island, can be raised upont these lands, which are now offered for sale in parcels to suit purchasers and settlers, from small lots of a few acres to 100, 1,000, or even 10,000 acres. To capitalists, or persons desirous to purchase a large tract of valuable land, well situated, of easy access to the best markets in this country, in a perfectly healthy climate, in the midst of a great game region, the woods abounding in deer and wild birds, whilst the neighboring bays and waters of the island are filled with wild fowl and fish in great abundance and variety.

One of the finest trout streams of the island runs through this land, and in the north parts of the tract, is the famous Ronkonkoma Pond, or Lake, one of the most beautiiful sheets of water that can be found anywhere, of about three miles in circuit, the shores and banks of which are pleasant and picturesque in a high degree.

Persons settling here, have all the advantages of growth and rise of property of a new country, with all the privileges of an old-settled country, as by a ride of three to five miles, churches and schools of various denominations may be found, of more than 100 years' standing. Title perfect, and will be sold on advantageous terms, and at a low price.

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NEW-YORK
AGRICULTURAL WAREHOUSE AND SEED STORE,

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HARROWS.—Triangular, folding, and square; single and double harrows.

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☞ Be *particular*, also, as to the *name*, *number*, and *street*, which should be

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FRESH GARDEN SEEDS.—Pole and Bush Beans; Sugar and other kinds of Beet, Mangel Wurtzel and Scarcity; Borecole, or Kale; Brussels Sprouts; Brocoli; Colewort, or Collards; Cabbage; Kohl-Rabi; Cauliflower; Carrot; Chervil; Celery; Cress; Cucumbers; Egg Plant; Endive; Indian Corn; Leek; Lettuce; Melon; Mustard; Nasturtium; Pumpkin; Radish; Rhubarb; Spinach; Salsify; Sea Kale; Squash; Tomato; Turnip; Sweet Herbs; &c., &c.

The above seeds are grown expressly for us, and we have every reason to believe them genuine, and of the best and most improved kinds in market.

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BONE DUST—of superior quality, in barrels. Those in want will do well to secure it soon.

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COMBINED MANURE.—This is a valuable artificial manure, containing a considerable per centage of phosphate of lime, ammonia, and nitrogen, capable of affording ammonia by slow decomposition in the soil. On application to crops, it is immediately felt, and its effects continue for three or four years. Price, put up in barrels, $1 per 100 lbs.

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The Overshot Threshers consist of a small-spiked cylinder with a concave top, and possess these advantages. 1. They have a level table for feeding, thus enabling the tenders to stand erect, and control the motions of the horse and machine by means of a brake, by which accidents are avoided. 2. In consequence of the spikes lifting the straw and doing the work on the top, stones, blocks, &c., drop at the end of the table, and are not carried between the spikes. 3. The overshot cylinder does not scatter the grain but throws it within three feet of the machine. 4. This arrangement also admits of attaching a *separator* high enough from the floor or ground to allow all the grain to fall through it, while the straw is deposited by itself in the best condition for binding. 5. Neither grain nor straw are broken by this machine. 6. The cylinder is long, which admits of faster and more advantageous feeding; it is smaller and with fewer teeth than ordinary threshers, thus admitting of more rapid motion and faster work with less power; and the diminution of teeth in the cylinder is fully made up by an increased number in the concave top, which is stationary. 7. The separator is a great advantage in diminishing the labor of raking out the straw, as it leaves the grain in the best condition for the fanning mill. Three men with a single power, can thresh 100 to 150 bushels of wheat or rye per day; and four men with a double power, twice that quantity. All the above are compact and can be carried where wanted, complete, or they may be readily taken apart and packed for distant transportation by wagon or otherwise.

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